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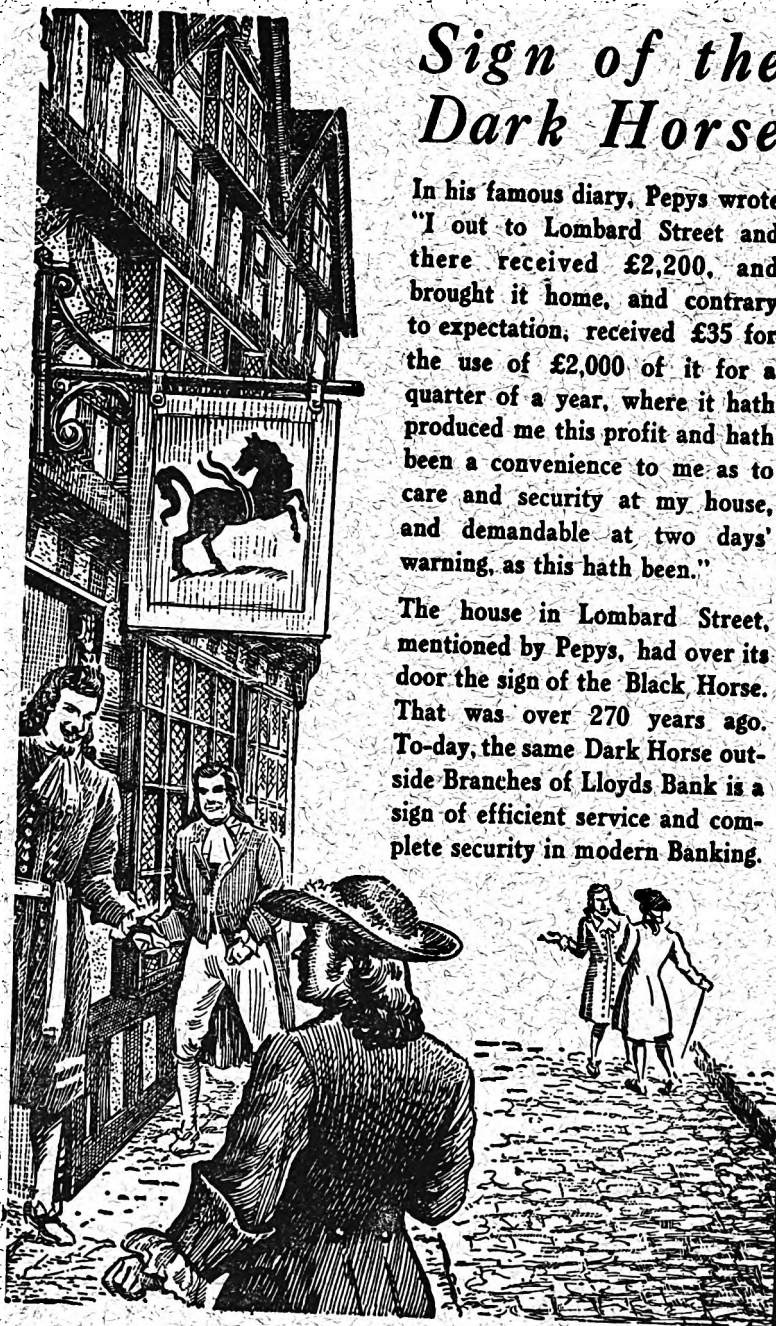
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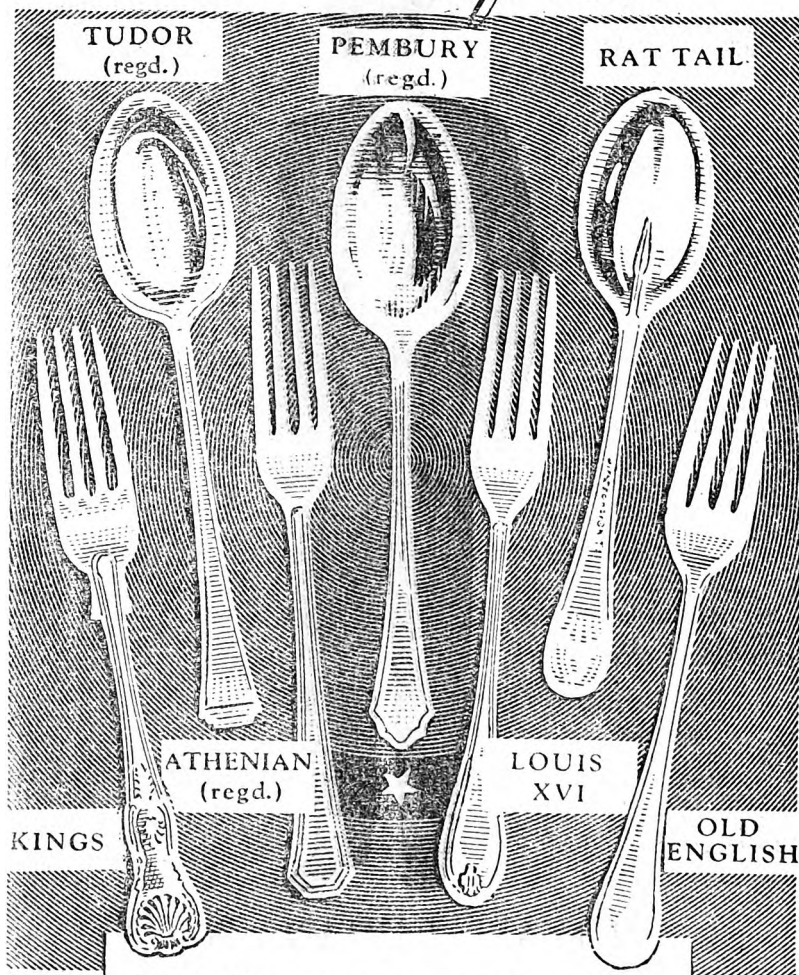
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The Journal of the United Service Institution of India

Vol. LXXIX. JANUARY-APRIL, 1949. Nos. 334,335.

The views expressed in this Journal are in no sense official, and the opinions of contributors in their published articles are not necessarily those of the Council of the Institution.

EDITORIAL NOTES

General Cariappa

The appointment of General K.M. Cariappa, O.B.E., as Chief of the Army Staff and Commander-in-Chief, Army, has been well received by the country. The Indian Army has thus been completely nationalised. It can pride itself on having produced not only the first Indian C-in-C but also one who is eminently qualified in every way to assume this responsibility.

During his thirty years in the Indian Army, General Cariappa has had wide experience of staff work and command. He has travelled widely. Whilst still a subaltern, he made a world tour to study the organisation and training of foreign armies. As a Brigadier, he was appointed a member of the Army Reorganisation Committee and toured the U.S.A. and Canada. His studies at the Imperial Defence College had to be interrupted when his services were required as a member of the Army Sub-Committee of the Armed Forces Reconstitution Committee in June 1947.

Early in his career as a soldier he saw overseas service in Mesopotamia from 1920 to 1922. He was in Waziristan between 1922 and 1925. In World War II he served with the 10th Indian Division in

Iraq, Syria and Iran from 1941 to 1944. Between 1941 and 1944 he raised and commanded a machine gun battalion of the 7th Rajput Regiment. In 1943 he was transferred to the Eastern Army and served with the 26th Indian Division in Arakan.

General Cariappa's post-war appointments include that of Chief of the General Staff, and of G.O.C.-in-C., first of the Eastern Command and then of the Western Command.

A Life Member of the U.S.I. for over a quarter of a century, General Cariappa is the first Indian to be elected its President. His keen interest in the Institution, during the difficulties of the change-over, has cherished and nourished it. Our earnest good wishes to the new Commander-in-Chief, who, in his 49th year, can look forward to a period of fruitful service to the Government and the country.

India and Sea Power

The Navy's role in the defence of this sub-continent has seldom been fully appreciated. Some ignorance on this subject was understandable when the security of the seas around was the responsibility of the United Kingdom Government. Today, an independent India will have to consider how best she can share this responsibility.

In his excellent lecture on India and Sea Power (reproduced as an article in this issue), Vice-Admiral W.E. Parry, C.B., R.N., the new Commander-in-Chief of the Royal Indian Navy, surveys the problem of India's defence by sea from very early times. Soon after his arrival in India in August 1948, Vice-Admiral Parry interested himself in this subject, and in the midst of other pressing duties managed to find the time to study something of the maritime history of the country, which to him must have been largely new. The lessons he draws are inescapable, and should help to bring about a quick realisation of the need for a strong Indian Navy.

Vice-Admiral Parry won renown in World War II as Captain of *H.M.S. Achilles* (now *H.M. I.S., Delhi*, Flag-ship of the R.I.N.), which in company with two other cruisers, *Ajux* and *Exeter*, engaged and defeated the formidable German pocket battleship *Graf Spee* at the battle of the River Plate. His last appointment before coming out to India was as Director of Naval Intelligence at the Admiralty.

That both the captain and the ship with such an inspiring record in World War II, should now be with the R.I.N. is a happy coincidence and augurs well for the future of the Service.

Re-organisation of Air Headquarters

Following on the lines of the Air Ministry, the Headquarters of the R.I.A.F. has been re-organized on a three-pronged system. Soon after World War II it was realised by the R.A.F. that the Technical Services were as important as the Administrative and Air Staff branches, if not more important. As a result of this, they raised the level of the Technical Services Branch to that of the other two Branches.

Today, Air Headquarters is divided into the Air Staff Branch responsible for formulating the principles of air strategy, the Personnel and Organisation Branch responsible for looking after the administrative aspects of personnel and organisation and the new branch, the Technical Services and Supply branch, responsible for the technical and equipment aspects of the R.I.A.F. Each one of these branches is headed by an Air Officer of the rank of Air Commodore or above with the necessary senior staff in charge of the various Directorates.

Western Union Defence

More and more world interest is being focussed on the Western Union Defence organisation which was originally formed in September 1948. The Defence Ministers of Britain, France, Belgium, the Netherlands and Luxemburg met in Paris with the object of setting up a permanent organisation to ensure the security of these Powers and to deal with the problems of production and acquisition of materials. The Governments concerned appointed three Commanders-in-Chief of the Land, Sea and Air Forces and also appointed Field-Marshal Montgomery as the permanent Military Chairman of these Commanders-in-Chief in Committee.

At the end of October 1948, the five Foreign Ministers of the Powers concerned met in Paris and discussed the question of North Atlantic Security. An agreement was reached regarding a defensive pact for the North Atlantic. By this time the U.S.A. had begun to take an active interest in the military affairs of the Western Union, and showed her appreciation by a grant of 5 million dollars worth of military equipment to France. Canada also declared her intention to enter into negotiations.

The announcement, in April 1949, of the North Atlantic Pact between the above five countries, the U.S.A., Canada, Norway, Denmark, Italy, Iceland and Portugal has brought increased importance to this Defence Organisation. In the coming summer combined manoeuvres are going to be staged with the defence forces of all five countries. This fact is significant indeed, and is perhaps a forerunner of "Combined Atlantic Manoeuvres" of the future.

Rebellion in Malaya

To the Indian Serviceman, the insurrection in Malaya is of special significance. It is not just a case of lawlessness, but organised rebellion against the Government by the Communist Party of Malaya.

Communism was well established in Malaya even before the war. During the war, the Communist Party organised anti-Japanese activities after the fall of Singapore, with the help of British arms and equipment dropped from the air, and even led by British officers in certain instances. After "VJ Day", much of the arms and ammunition was withdrawn but certain elements decided to continue the fight against the British Government.

The Communists in Malaya today consist almost entirely of Chinese. They began their activities with Communist infiltration into the public Services, starting organisations to gain control of labour and trade unions, and finally, in early 1948, decided to wage war against the Government. The Party is well organised into Political and Military branches and equipped with British and Japanese automatics, mortars, rifles and pistols. The country is extremely well suited for guerrilla warfare, and their tactics of evasion and the terrorising of isolated outposts achieved a certain amount of success in the beginning.

The main problems of defence which faced the Government were the establishment of law and order to restore confidence in the people, the security of vital industries and installations, and the hunting down of widely scattered parties of insurgents. In this the Police and the Military have not found a simple task. The operations have involved large scale air movement of troops from one trouble spot to another, the patrolling of the coastline by the Navy to prevent the smuggling of arms and illegal immigrants, and the organisation of an effective intelligence system with the help of the civil authorities.

Commonwealth Conference

A Commonwealth Conference consisting of the Prime Ministers of the United Kingdom, Australia, New Zealand, South Africa, India, Pakistan, and Ceylon and the Canadian Secretary of State for External Affairs met in London towards the end of April to discuss questions relating to the Commonwealth in general and India's association with the Commonwealth in particular. After discussions covering nearly a week it was announced in a communique from 10 Downing Street dated 27th April that India would remain a full member of the Commonwealth though she would very soon declare herself a sovereign republic. This is indeed a unique settle-

ment without any precedent in the constitutional history of the Commonwealth or in international law. The successful working of this pact towards the attainment of peace and amity between nations will undoubtedly belie the apprehensions of certain orthodox constitutionalists on the one hand and of extremist republicans on the other. The relevant paragraphs from the declaration run as follows :—

“The Government of India have informed the other Governments of the Commonwealth of the intention of the Indian people that, under the new Constitution which is about to be adopted, India shall become a sovereign, independent republic.

“The Government of India have, however, declared and affirmed India’s desire to continue her full membership of the Commonwealth of Nations and her acceptance of the King as the symbol of the free association of the independent nations and as such the Head of the Commonwealth.

“The Governments of the other countries of the Commonwealth, the basis of whose membership of the Commonwealth is not hereby changed, accept and recognize India’s continuing membership in accordance with the terms of this declaration.

“Accordingly the United Kingdom, Canada, Australia, New Zealand, South Africa, India, Pakistan and Ceylon hereby declare that they remain united as free and equal members of the Commonwealth of nations, freely co-operating in the pursuit of peace, liberty and progress”.

Hence India and Pakistan will continue as free and equal members of the Commonwealth.

It was expected that the question of treatment of nationals of India (and Pakistan) in South Africa would be taken up in the Conference. No formal discussion on the topic took place.

The Journal

This combined January-April issue has been decided on after careful thought. The efforts to catch up with printing delays were neutralised by a fire in the printing press which held up the last issue. To avoid a perpetual time-lag it has become necessary to adopt the course already recommended by certain members. It is felt that members as a whole would welcome this step. By combining the January-April and July-October numbers it will be possible to bring out the January 1950 issue in good time.

In spite of the fact that the cost of production of the Journal has more than doubled within recent years, the subscription has remained the same. Members and subscribers will therefore appreciate that even with fewer issues—a purely temporary measure for this year—the Journal is still good value.

The need for more and more articles from our readers has been

repeatedly stressed in these pages. There has been some response, but still not enough; there are indications that the situation will improve gradually. Meanwhile, combined issues will assist in keeping up quality. It is no small matter that contributions from our own members in the past have given this publication its present standing as a Service Journal not only in India but also abroad. To maintain and enhance this prestige needs the constant endeavour of members, old and new. Contributions especially of professional interest to the three Services, should be the aim. Lessons of the War, Strategy, Tactics Training, Technical Aspects, Administration, Weapons, Welfare, Morale, Command, Leadership History, Customs and Traditions, etc. are a few examples of the type of article which would increase the value of the Journal to its readers.

In the July 1948 issue of the Journal, members were invited to send contributions for Navy Notes, Army Notes, and Air Force Notes. The Army Notes published in this issue will perhaps lead the way for similar contributions from the Navy and the Air.

No country, no Government in the world, permits its army to mix with politics.—*C-in-C. Indian Army.*

ARE OFFICERS' MESSES SUITABLE FOR INDIAN CONDITIONS ? *

LIEUT.-COLONEL D.K. PALIT

INTRODUCTION

INASMUCH as the change-over of the Indian Army from British to Indian control took place during a period of acute national crises, there has so far been no opportunity of reviewing in any detail the methods by which the army should be administered in the post-war period. Consequently, many of the customs and usages of the "old order" have continued in existence without any change or modification. Not the least important of these is the system of Officers' Messes.

It is time, however, that we started thinking of the future of this institution. Many of the Commanding Officers of today are anxiously awaiting the final decision—Is the Officers' Mess to continue as part of the Unit's establishment, or not? If it is, then it is incumbent upon us to start earnestly to bring it up to the old standards, because many messes have suffered through loss and neglect during the period of transition. If not, then all the efforts of present officers will have been wasted, and much unnecessary expenditure incurred by them.

Quite apart from this, there is also the question of governmental liability. As the Officers' Mess is a Government-sponsored institution, as part of Unit Establishment, it involves a substantial and unnecessary load on the budget if it be finally decided to discontinue the Officers' Mess system in the post-war army. Many new units are being raised, many others will be amalgamated or reorganised when the eventual reduction to peace-strength starts. It is therefore unfair and unpatriotic to waste large amounts of Government money on starting or reconstituting Unit Messes if they are only to be abandoned at a later stage. The policy must be decided soon.

DEFINITION

Before we start any discussion on the advisability or otherwise of continuing the Officers' Mess system under Indian conditions it would be wise to be quite clear in our minds as to what exactly is meant by an Officers' Mess. It may perhaps seem pedagogic to dispute the meaning of a term which is so commonly and widely used in the army, but nevertheless it is felt that much doubt and futile argument can be avoided by establishing an accurate definition from the very beginning. The reason for this step becomes obvious when one reflects that a vast majority of the serving officers of today have never had the opportunity of belonging to a regular and orthodox mess, as was to be found in normal days before the war. The Indian Army has now existed under abnormal and emergency conditions for nearly ten years—a period during which the vast majority of its officers was recruited. Many of these have always lived with their units only under emergency conditions, some under the most unorthodox circumstances. I have known some war-raised messes of smaller units to vary anything between a glorified chummery and gambling or drinking dens. There are many officers who have not yet had the privilege of serving in a regiment or corps except on the basis of the Proforma Posting. If therefore a policy regarding their future messes is being discussed, it is essential that they be made to realise the exact implications of this very common though much misused term.

*Awarded the first prize in the Gold Medal Prize Essay competition for 1948.

An Officers' Mess is not an institution conceived merely to simplify boarding and lodging facilities for officers. It is not a sort of Limited Club Company to which a number of officers belong in order to exercise financial stringency. This should be firmly asserted before we delve deeper into the subject.

An Officers' Mess is an Army (and thus, a government) institution which exercises control over all aspects of officer discipline—be it the way he dresses, the way he behaves or the way in which he spends his money. It should be an institution which moulds an officer's character according to the required standards of the service in general and, more particularly, according to the traditions of the Corps or Regiment to which he belongs. Above all, it is a Mess to which an officer is proud to belong in preference to any other Mess, and on which he can depend to support him during many personal and professional crises.

It is not the amount of wealth in its funds nor its hoardings of silver and other trophies, which makes a true Officers' Mess. In some cases, it is not even its ancient and historical standing which entitles it to this status. There are many old and fabulously rich Messes which have degenerated into nothing more than exclusive Officers' Clubs.

It is the spirit of its officers, the preservation of regimental traditions, the spirit of service born of discipline and *esprit-de-corps*, which constitutes the true Officers' Mess. The fact that it caters for the comfort and welfare of its members is incidental and not its main function.

For the purposes of this essay, I would go even further and say that the orthodox term "Officers' Mess" really implies a "Unit Officers' Mess" or "Regimental Officers' Mess", as distinct from Station or Formation Messes. The latter are constituted merely for operational or administrative convenience under abnormal circumstances, and in any case all officers who temporarily belong to such messes are primarily permanent members of their own Regimental or Unit Messes. Formation or Station Messes are therefore only secondary institutions, and do not carry out some of the more important functions of the Officers' Mess under the orthodox term.

BRIEF HISTORICAL SURVEY

The word "Mess" is in fact borrowed from the legal profession. It originally applied to groups of four or more gentlemen-learners of the King's Law at the Inner Temple, who sat together at their appointed table—not only for the purposes of eating together, but also to form a syndicate in which they could discuss the intricacies of their legal studies. This grouping was thus both an administrative convenience as well as an educational measure.

In the British Army the Officers' Mess as such did not exist before about the mid-eighteenth century. Before then, regiments often did not exist as such in a peace station, for even in the professional armies the various sub-units usually collected together only for operational necessity, or during manoeuvres. When the army went out campaigning, most of the officers took with them their own retinue of servants who could tend to their needs on the field of battle. It was even permitted, under some Commanders, to take one's womenfolk as part of the baggage-train. It was only among the more impecunious officers that there arose any need for making some sort of arrangement to mess and lodge together. The Officers' Mess in its now orthodox meaning had not been conceived.

The idea of the Officers' Mess system was really first introduced by the Royal Navy. Before the Elizabethan era, the officer members of a ship's company seldom exceeded two in number—the Captain and his Mate. With the implementation of

the Virgin Queen's expansionist policy, came the need for bigger and more heavily armed ships. During this period also, the science of navigation and theories of ballistics and metallurgy became more advanced and complicated, requiring a much larger complement of officers on board a man-o'-war. Some sort of system became necessary to control officer-discipline and officer-management during the long periods of service in foreign waters. Thus was born the "Ward Room", which catered not only for the officers' messing, but also became a nerve-centre for discipline and esprit-de-corps for the whole ship's company.

During the seventeenth and eighteenth centuries, long periods of warfare in the colonies and the need for numerous sea-borne expeditions brought the Army and the Navy into close contact with each other. Land troops were often sea-borne for long periods, and it was not unusual to find certain Regiments of the Line quartered on board certain ships for as long as five years or more at a time. Many new customs and traditions were started during this period of "Naval" service—for instance, the privilege granted to certain Regiments to drink the King's health sitting down, a reminder of those years of service on board His Majesty's men-o'-war, when the "land-lubbers" could not be expected to stand up for the toast on a heavy sea. It is thought by many, Fortescue among them, that it was this period of close association with the Navy, which saw the beginning of the regular Officers' Mess—an adaptation of the "Ward Room" or "Gun Room" idea from the Navy.

Conditions in army administration during this period were also more conducive to a permanent Mess system. The days of the irregular soldiery had been replaced by standing Regiments of the Line. The reforms introduced by the Duke of Wellington had far-reaching results; one of the most important results of his efforts was a peace-time standing army, a coherent system of training. Under these conditions the Officers' Mess system, once introduced, found scope to flourish. Officers no longer lived in their own homes, or brought their own retinues. Their life was now centred round the Mess.

To attempt to trace the history of an institution such as the Officers' Mess is difficult in any country. In India it is even more so, because there are very few records of army administration, recent or remote. The accounts of campaigns fought by the Mayurian Armies, or even the more recent armies of the Moghuls, are very sketchy, and usually consist of little more than an outline of the major political events.

It is, however, extremely unlikely that any such institution existed in our armies. Under the feudal system, officers were appointed not so much for reasons of military prowess, as the fact that they were the scions of the noble families of the land. At a later stage, a certain number of junior ranks were thrown open to the landlord families, provided they undertook to supply a certain number of men for the army in the event of an emergency. As is natural under these conditions, the officers of the army either had a sycophantic existence centred round the court, or were so dispersed over the country that it was not possible to lead a disciplined life together in one mess. Most of the officers of the Moghul Armies, for instance, lived on the fringes of the Delhi Court and Society, even when their troops were stationed in remote parts of the country. Only during an emergency were they expected to join their troops.

The armies of the Rajputs had a certain custom which required that officers should share their "thal" with their commander, and even their Maharana, on certain occasions. One can see in this the germ of the idea of the Officers' Mess, for this custom was both a disciplinary and a social measure. The leaders got to know their junior officers, and were able to keep a periodical eye on their behaviour. From that excellent book—"The Military System of the Mahrattas", by Sen—we also

learn that the Mahratta Armies carried in their baggage-train the "Senapati Pandal," which was set up at each halting place so that the Senapaties of each arm could gather together for discussion. It is not inconceivable that such Pandals, apart from being an operational conference room, were used in the nature of a Mess as well.

In the earlier days of the British Indian Army, when it was an organ of the East India Company, there was also no such system as the Officers' Mess. As in the early days of the British Army, this was mainly due to the fact that units seldom existed as a whole during peace-time, except on paper. An excellent account of the normal life in these old regiments is recorded in that most informative book—"Khwab O Khayal" or "Sepoy to Subedar"—which is about the only existing record of regimental life in the days of John Company. We learn from it of the various practices of the officers, of the system of keeping native women as concubines and house-keepers, of the financial resourcefulness of Commanding Officers who recruited men for their battalions only for occasions of inspections and visits of senior officers. There was certainly neither the scope nor the incentive for the existence of Officers' Messes or for any form of officer-discipline.

After the taking over of the East India Company by the Crown, when the old "Native" Army began to come into closer contact with an increasing proportion of British Regiments, all aspects of discipline and administration began to be remodelled along the lines of the British Service. The Queen's Regulations became operative and the Officers' Mess system was introduced into the Indian Army. From those days onwards, the traditions and customs of our Messes began to be built up. Their future is in our hands now.

From the brief historical survey above, one main conclusion can be drawn, which has a direct bearing on the present discussion—that it is wrong to assume that because the Officers' Mess system did not exist in the old armies of Indian rulers, therefore it is foreign to our national make-up. It should be remembered that in the British Army also, the Officers' Mess did not exist before a certain period of their history. In fact, it is not a case of British or Indian, Western or Eastern conditions, which make for the suitability of Officers' Messes, but the conception of discipline and officer-management. The histories of both countries have shown that with the transition from the old feudal system to the modern disciplined armies came the necessity for an organised institution which controlled the interests of "officer-service." The fact that in India the Officers' Mess system was introduced by the British, was a historical accident and not Western design.

FUNCTIONS OF THE OFFICERS' MESS

"A good Corps of Officers make for good troops independently of the cause for which they fight When a nation's Corps of Officers has no foundation or military organisation, it is very difficult for it to organise an Army"—*Napoleon*.

This is not one of Napoleon's better known maxims, for biographers have naturally picked upon those which express tactical or strategic significance to expound his doctrines. The quotation above shows, however, that the Great Captain had also attached considerable importance to the organisation and administration of an army, and had laid down in straightforward language his opinion of the importance of good officers, and the need for good "foundation and military organisation" in the Corps of Officers. Expanding on the same theme, Napoleon has said that the quality of an army is essentially an indication of the quality of its officers, and that the training and discipline of the officers should be the prime concern of a general preparing for a campaign.

It is the contention of this article that the Officers' Mess is the most practical

and suitable institution for maintaining those conditions which make for a good Corps of Officers. It is true that officers undergo strict selection measures in the armies of today; that they receive training before being granted commissions; that their code of behaviour is controlled by Government acts and regulations; and that their military conduct and discipline are subject to censure by their superior officers. But apart from official control, the Officers' Mess is an "association" which instils, by virtue of its background of history, tradition and esprit-de-corps, the same qualities which official channels attempt to enforce. In order therefore to estimate to what extent the Officers' Mess influences the conduct and bearing of officers, it would be necessary to discuss in detail the accepted functions of this organisation. Here again, it is emphasized at the risk of repetition, that when referring to an "Officers' Mess" what is actually signified is the average Regimental Mess which existed before the exigencies of the emergency period threw so many like institutions out of gear.

Discipline

One of the liabilities which a soldier accepts when he takes up the profession of arms is that he voluntarily subjects his comportment to a secondary governmental code of law in addition to his liability, as a normal citizen, of conforming to the laws of the country. In other words, he voluntarily accepts the additional restrictions of the Army Act. To go even further, having been subject to the Army Act he automatically, as a corollary, renders himself subject to any rule or regulation his superior officer might choose to impose upon him.

When one reflects objectively upon the immensity of this undertaking, one realises the need for discipline in the armed forces. The soldier is expected to conform to hundreds of military rules and regulations in order to maintain discipline and the customs of the service. In so far as the private soldiers of the non-commissioned ranks are concerned, it is the duty of their officers to exercise this discipline. But where officers are concerned, it is a slightly different matter. Very often they are commanders of sub-units over which supervisory control of all aspects of discipline is difficult; their private affairs and personal relationships are not legally subject to control; they are not subjected to the same system of minor punishments as the rank and file. There are many such obstacles in the way. During off-parade hours, therefore, if an officer were left to his own devices to find his own board and lodging, to select his own environments, and in general, to lead his own private life, the immense problem of discipline would never be solved.

It is the Officers' Mess which provides a workable solution to this problem. An institution is set up which exercises a general supervisory control over all aspects of officer discipline—collective or individual. It has power, born of tradition, to impose upon officers punishments and forfeits which are nowhere laid down in regulations. It not only enforces discipline on the officer, but is able to provide him with standards on which to mould himself. Association with fellow-officers and respect for Mess traditions breed a strong sense of loyalty and co-operation, which ensures that the officer will at all times conduct himself in the best traditions of his Mess. It ensures that he is at all times properly dressed—in or out of uniform—that he mixes in the right company, that his off-parade habits are as punctual, regular and disciplined as his conduct when on duty. In short, the Officers' Mess enables an officer to live up to his added responsibilities—that is, the responsibilities concurrent with the profession of arms—during his off-duty hours. If he is permitted to live by himself, or board in a chummary, it would require abnormal effort on his part to uphold in all aspects the spirit of army discipline.

Training

The training of officers can be divided into two broad categories—compulsory training, without which he would not be able to carry out his duties efficiently and secondly, training which is not strictly essential, but which nevertheless increases; his professional knowledge and ability.

The first category is catered for by the government. An officer receives his initial pre-commission training, and is thereafter kept up to standard by attendance at Army Schools and courses of instruction, and periodical examinations. Such measures ensure that an officer's lack of professional knowledge does not become so acute as to make him a liability to the profession; they can do no more. The second category, however, which may be termed "voluntary training" is rather apt to be neglected in our profession. Subjects such as military history, current affairs, the study of foreign languages, and even the discussion of contemporary technical problems, though not forming part of an officer's compulsory training, are nevertheless of great value to him in his profession. It is this aspect of an officer's training which should be the responsibility of the Officers' Mess.

Membership of an Officers' Mess provides numerous facilities for such study. Group discussion between fellow-professionals, though usually shunned as "shop," is an unconscious but major benefit of Mess life. What is more natural, but that if a certain knotty problem faces an officer, he discusses that problem with his brother officers over the evening glass of whisky? Everyone takes an interest in each other's professional problems, and everyone gains in knowledge.

Most units used to organise periodical talks, whether by visiting officers conversant with the subject, or even by their own officers who were detailed to read up and prepare talks on various subjects in turn. Furthermore, Messes provided facilities for liaison visits to civil departments or public libraries and museums. In fact a good Mess was a constant source of inspiration to officers and trained them to be better professionals.

Spirit of Comradeship

In the army, more than in any other profession, a deep and constant spirit of comradeship between fellow-officers is considered a vital requisite. It is a profession the members of which are subjected to emotional stresses and strains of great intensity during war. On the field of battle, great personal sacrifices have often to be made in order to uphold in all its aspects the spirit of comradeship in the army. It has been said that some of the noblest and meanest of human actions have been recorded under the stress of war. It is therefore necessary, if a certain group of people expect to stand these emotional trials in each other's company, that a strong spirit of camaraderie should bind them together. Those who have had the opportunity of comparing the difference between co-operation and team work in normal routine work and that required when faced with the hazards of active service, will agree that the soldier on the battle-field is always in need of this feeling of camaraderie with his fellow-campaigners.

This feeling cannot be fostered merely by working together. It must have a firmer background, and it is the Officers' Mess system which provides this background as far as officers are concerned. In it the officers of a regiment live together and share each other's joys and sorrows. Strong and weak personalities, or opposing personalities which normally would have clashed, become accustomed to their adjusted places in the complete emotional picture. The "nervous" adjustment of the team takes

place on an intimate footing, and is the better able to stand the strain of the battlefield. This could not be possible with a set of officers who merely work or feed together, and are comparative strangers to each other in their emotional life.

The relationship of senior and junior officers is also peculiar to the Officers' Mess. In normal civil life, whether official or otherwise, the team work and friendship exists only amongst officers of the same level. Seldom does one find a "Boss" who is on intimate terms with the junior officer. Perhaps the need for this intimacy does not exist. In the armed forces it is different. The "Boss", the Commanding Officer, must be as intimate with his junior Subalterns as with his second-in-command. For, upon his planning and orders all will be equally ready to risk their lives. He will have to take his share of nervous strain with all his officers. It is the Officers' Mess which provides him, after his parade hours, the opportunity to be on friendly terms with even his extreme juniors. Only in the peculiar bon-homie atmosphere of the Officers' Mess is he able to establish this relationship.

Social Relationships

The Officers' Mess plays a very large part in the social relationship of its members, especially its junior members. In fact a good Officers' Mess should form a sort of "home from home" for junior officers, and be the medium of their social intercourse. This is done not only in the interests of economy, but also because the character and professional standing of a young officer depends to a large extent upon his social activities and surroundings.

Actually, this question of economy is a debatable one. A Mess is not a money-saving measure. It is true that it makes it convenient for officers to board together in comfort and luxury with the minimum expense. But at the same time, it demands a certain amount of compulsory contribution from its members for the upkeep of its high standards. These compulsory subscriptions, for various funds such as entertainments, sports, papers and magazines, bands and others, often total up to substantial sums, and are paid by all officers—married or single.

These expenses however are necessary to maintain the high standards required for the upkeep of regimental prestige, and are really a saving to a degree. If each officer were individually to attempt to maintain the Mess standard of living, he would have to incur far larger expenses. Therefore, though the Officers' Mess enforces compulsory expenditure, it returns large dividends in the way of social prestige and good living.

The question of prestige is a most important one. The army is not a well-paid service, and yet the Army officer has to maintain the high social prestige which his profession carries. The social standing of the Army in countries such as Britain and India has always been high, and it should be our aim to keep it so. The army officer is expected to take a leading part in the social activities of the station; and yet the junior officer cannot really afford to do so on his pay. This is where the Mess helps him out. He is able to entertain inexpensively on a high standard. A Subaltern or Captain, who would not have been able to return the hospitality of his social equals on his own, is able to entertain his guests in sumptuous manner in the collective and semi-ceremonial grandeur of his Mess.

This argument for the continuance of the Mess system may perhaps sound somewhat trivial. It may be contended that the final decision should not be prejudiced by the argument that officers are able to use the Officers' Mess as an inexpensive entertainment convenience. But when one reflects on the peace-time existence of the soldier, one realises that social standing plays an important part in the upkeep of professional prestige. The major part of our service is spent in peace-time

soldiering, during which period the armed forces are of little factual value to the country. It is true that the value of our service in peace-time is potential—a war potential—but the way the tax-payer looks at our profession is that we consume large portions of the nation's budget without showing any returns in productivity—a parasite service during peace periods. This feeling gives rise to an unconscious anti-army complex in the average citizen, and if on top of that we were also to be social outcasts, the prestige of the service would suffer beyond redemption.

It is essential therefore that during peace years a conscious effort be made to maintain this social standing of the Army Officer. It is a point which is difficult to appreciate in a country where the army has always been held in high prestige, and has always maintained a high social standard. Only when one reflects on the low social status of professional soldiers in countries such as China, or in some of our own Indian States, does one realise the psychological value of maintaining the peace prestige of a standing professional army.

Personal Affairs

Another important function of the Officers' Mess is to control, through its President, the personal affairs of its members. The reasons for this are many. To begin with, when a certain number of officers live together in such close and constant association with one another, there must be some additional restrictions imposed upon their conduct and comportment—restrictions which are necessary over and above the normal social or community codes.

This, of course, is easily understandable. If the officers of a regiment were given complete freedom to decide their own courses of conduct, then there might easily arise instances of unsavoury clashes and even disastrous discord among them. Such discord might pass unheeded in ordinary civilian life, but in the army, where large teams of officers work in close contact with each other on and off duty, it would make for professional embarrassment and consequent loss of efficiency.

The Officers' Mess therefore serves to control the intra-regimental social relationship of its members. If one of its members happens to be excessively wealthy, the Mess does not permit any inordinate ostentation of his riches; if someone drinks heavily, though not legally amounting to indiscipline, his excesses are kept in check; if his social associations are not in keeping with the general harmony in the Mess, he is openly ordered to discontinue such associations.

Strictly speaking, such action could be termed an infringement of one's civic rights; but in the service it is essential in the interests of harmony and co-operation. Only the traditions behind the Officers' Mess make it possible for such action to be taken without creating grievances and giving rise to resentment.

On the question of matrimony also, the officer's wishes are subservient to the Mess. As a citizen of a free society, no one can legally be prevented from marrying whenever and whomever he chooses. But in the Army, the Commanding Officer must look to the harmony of the Mess, and also to the officer's own interests. It is a psychological fact that constant association with the feminine sex during the formative years of one's life undermines a man's masculine qualities. It makes him comfort-seeking and domestic. In normal civilian life, this would not matter; but in the army it matters a great deal. The Commanding Officer therefore should prevent his officers from marrying too young, or if already married, from seeking the comforts of domestic life during earlier service. Again, it is through the Mess that he imposes such extra-civic ordinances.

CONCLUSION

It is commonly argued by many that the system of collective social intercourse, such as clubs and messes, is alien to the Indian character. It is true that we are not a club-going people by nature; and that our social activities have always been centred around the home, unlike in the West where the club, or the local "pub," is the active medium of social intercourse.

This may be true from the strictly historical standpoint. It is also true for the vast majority of illiterate and semi-literate masses who live in the Indian villages today. But it cannot be gainsaid that amongst the intelligentsia, and also amongst all strata of urban society, club-life and club-spirit have been most popularly adapted by Indians. Clubs, welfare-centres, trade-union recreation rooms, abound in all our cities. Similarly, the Officers' Mess system has now been firmly established in the Indian Army, through tradition and long usage. To argue that the Officers' Mess system should be discontinued, because it is alien to the Indian character, is therefore no longer either practical or logical. No Army officer can in all honesty maintain that the Officers' Mess jars upon him merely on the grounds of his "Indian" outlook. It is not so much a question of suitability now, as of adaptability, and it has been amply shown in the past that Indian Officers have been able to adapt themselves very agreeably to the Officers' Mess system.

On the other hand, it would be idle to pretend that the Officers' Mess is today universally popular in the army. This is, unfortunately, most certainly not true, for amongst a large number of junior officers today, a certain "anti-Mess" complex is rapidly growing up. The reasons for this are mainly two in number— that the young officers of today resent interference with certain aspects of their private affairs, and secondly, that the extra expenditure incurred in living in an Officers' Mess constitutes an unjustified encroachment into their already meagre finances.

The first of these reasons is not so important. For ages it has been the normal custom in many parts of India that a young man should take himself a wife as soon as possible, and particularly if he has settled down to an assured career. He is also expected automatically to take over charge of some of the "poor relations," a legacy of the joint-family system. These matters are looked upon as family responsibility and obligation, and if he is denied the facilities to fulfil these obligations, he feels that the Mess is taking an uncalled for liberty with his private affairs.

Such an attitude will however pass soon. During the war, little check could be kept on such matters, and young officers generally did as they liked in their personal affairs. It will not take them long to come under the influence of the Officers' Mess, as the old traditions begin to creep back. It will not take them long to realise the encumbrances of domestic life during their subaltern years. In the same way, "interference" with other aspects of their personal affairs will also gradually come to be accepted as among the normal functions of a Mess.

The other question, that of expenditure, is far more difficult. The vast majority of officers who joined the service during the war years have got into the habit of saving money. During the war, the rate of pay was increased and expenses, in most theatres, comparatively low. This habit dies hard, and it will take a considerable time for them to accustom themselves to the idea that the army is not a service where one can save much money.

Now that the new pay code has been adopted, junior officers have to curtail their expenses in order to make both ends meet, let alone be able to save. On top of this, when they find that they have to pay such large amounts for the upkeep of their Mess, it is not unnatural that they should foster a feeling of antipathy towards their Mess. The fact that the Mess, though enforcing compulsory expenditure, is

a collective measure for the upkeep of the high standards befitting the service, will only be realised after the return of normal times, and peace conditions of social activity.

These feelings of antipathy towards the Officers' Mess system should however be ignored, and not permitted to influence the decision whether the Indian Army should retain this admirable institution. The various functions of the Mess have been described in the foregoing pages. It exercises control over officers' discipline and training, and leads their social activities and personal affairs into restricted though professionally beneficial channels. If this system were to be discontinued then we must be prepared to accept a certain loss in the discipline, efficiency and esprit-de-corps in our officer ranks. This we can ill afford.

The Officers' Mess has been a success and a benign influence for many generations. It should not be discontinued now, on the grounds of unsuitability. The criterion should not be whether the Officers' Mess is suitable, but whether it is necessary, for Indian conditions.

Berlin Air-lift

During 1948, the R.A.F. reached a total approximately of 900,000 flying hours. The British mileage on the Berlin air-lift had reached 13,000,000 miles by the end of 1948, and the tonnage carried was 175,000 tons.—*Fighting Forces*.

INDIA AND SEA POWER

VICE-ADMIRAL W.E. PARRY, C.B., R.N. *

INDIA is completely independent. She has tremendous potential strength both morally and physically. She has a very big population and consequently is not limited by lack of man-power. She has an ancient culture and feels that she has certain ideas to put across. But she is at present weak and poor in a material sense compared to the Great Powers.

It seems to me India has two alternatives before her.

India could, of course, sit back within her own borders, grow enough food to feed her population, maintain sufficient armed forces to keep out unruly neighbours, and not trouble much about the rest of the world. But I think it is obvious that India will not be content to adopt such a policy.

The alternative is therefore for her to develop her resources, and become as strong as her people can make her. How can this come about?

I think there is only one answer. She must increase her strength and resources both internally and externally. Internally she intends to develop her industry, which amongst other things will produce manufactured articles for export. Externally she must make herself rich and strong by trading with other countries. She will need to import many things from abroad—machinery and goods she cannot make herself, oil and petroleum products in large quantities, military equipment of all kinds, foods in which she is deficient, etc. To get these she must export things other people need, such as tea and coffee, jute, cocoanuts, and, as she becomes industrialised, goods of her own manufacture. She must also cultivate a spirit of adventure amongst her people, so that they shall make contacts abroad for trading purposes, and also culturally to spread the gospel of India's ideology and intentions. And the chief way in which she can do all this is *by sea*. The air can carry an appreciable number of passengers (though the majority still travel by sea); but I doubt if air transport can ever take the place of sea transport as a carrier of goods, either in bulk or financially. India's land frontiers are, of course, quite impossible for trading purposes.

Therefore it follows that, if India is to expand, she must expand by sea. To do this she must study the problems of sea power, which she has largely failed to do.

The reason for this is that, for some 300 years, England has controlled India's sea communications so successfully that India has not needed to worry about them. And yet a little study of India's history shows two things. First, that for many centuries before the arrival of the European Powers, India had been the great sea power of the Indian Ocean, and had traded overseas as far as China to the eastward and to the Middle East and Africa to the westward. Secondly, that during the three and a half centuries of European domination, India's fate was decided time after time by sea power and not by land.

*From a lecture in New Delhi to an audience of Service Officers.

SEA POWER

Many people think that sea power is another word for a strong Navy. This is of course much too limited a view of the meaning of the word.

Sea power really means power to use the sea, in peace and in war, to the best advantage.

The great American naval writer—Captain Mahan—goes even further and says:—“Sea power embraces all that tends to make a people great upon the sea”.

I should like to make this point quite clear to you all,—that sea power is a far greater thing than the possession of a number of warships and aircraft and submarines.

A flourishing merchant fleet, combined with an aptitude for trading by sea is indispensable in building up sea power. No nation has ever become great at sea who has not at the same time been a great sea trader. Portugal, France and England, the three countries which have profoundly affected the history of India for the past four centuries, were all great sea traders. Each had a large merchant fleet, supported by a powerful Navy.

The humble cargo ship plays a leading part in the drama of sea power. It is less splendid, but not less vital, than the great warship. It is no exaggeration to say that in the late war lack of ships was our biggest concern.

FUNCTIONS OF SEA POWER

Now a word or two about the functions of Sea Power. The Director of the Royal Naval Staff College in the United Kingdom describes these as follows:—

First. It protects the transfer by water of land and air forces and their supplies to those areas where they can be most effectively used against enemy forces. This may mean bringing an army to an enemy coast, which is seaborne invasion, or to a friendly shore for operations in adjacent territories.

Second. It ensures that the essential seaborne trade which carries strategic war materials, and, in modern war, this falls not far short of including all materials, reach the home base in the major theatres of war in sufficient quantity to maintain war effort.

Third. It prevents the enemy from using the sea to transport his own armies on a large scale. This means that it prevents one's own homeland being invaded.

Fourth. It exerts economic pressure on the enemy by limiting the import of overseas commodities which are scarce or lacking in the region under his control. It also prevents him exporting his products, the proceeds of which might be used to pay for commodities received from contiguous neutrals or for various services abroad.

Fifth. It covers the flank of our own armies near the coast in co-operating with military operations by providing mobile artillery, when the necessary naval forces are available.

In considering these functions I want to impress again that sea power does not mean merely warships, it includes the sum total of those installations, weapons and

geographical circumstances which enables a nation to control transportation overseas in war time. The aircraft, be it Naval Air Arm or R.A.F., when it plays a part in such control, is acting as an instrument of sea power.

Further if the chief purpose of a navy is control of sea communications, the vehicles of such transportation must be considered not as incidental to sea power but as part of it. It would be as unreasonable to consider sea power in terms of warships alone as it would be to think of a railway train in terms solely of the engine. A railway engine without trucks represents power well enough, but power without functional meaning. Without shipping, naval effort can be only negative; it is little use denying the enemy the sea if one cannot use it oneself.

If in the unpredictable future bulk commodities of ocean transport are carried in aircraft rather than in ships or if we can move armies and their mechanisms, and the heavy stores which alone enable an Air Force to sustain an attack in a distant theatre of war, without dependence upon the sea, then sea power will have lost its meaning. That day has not dawned yet. Air power cannot be divorced from sea power and an understanding of each other's problems is vital to the future.

Having said this much, let us face this fact. Has not air power extended the already long arm of sea power and the two conjointly provided a more precise and economical force for the control of sea communications than existed in the past? Ships and aircraft working together over the sea constitute sea/air power. To express the exercise of this combined power it is sound to refer to MARITIME WARFARE, indicating the employment in war of all forces working in co-operation on, under and over the sea, and in referring to maritime forces we now mean not only warships but also naval aircraft, shore based R.A.F. aircraft working with us, and all types of merchant ships, supply and replenishment ships serving the fighting units.

HISTORICAL SURVEY OF SEA POWER IN THE INDIAN OCEAN

In any study of sea power, geographical conditions have immense influence. Although England started her maritime career as a peaceful trader, she had to fight her rivals, particularly the Dutch and the French, and her position across the sea routes of Western Europe gave her inestimable advantages both in peace and in war. Similarly, India's position across the sea routes of Southern Asia must give her immense strategical advantages, both from the aspect of peace-time trade and war-time operations. To illustrate this I will pass very quickly through some episodes in India's naval history.

For at least 3000 years the Arabian Sea has been a great highway of commerce and intercourse. The Phoenicians, the great Mediterranean traders of ancient history, who reached the British Isles by sea long before the Romans arrived by land, were equally prominent in developing the sea routes to India. The Indians themselves, and later the Arabs, were crossing the seas from pre-historic days. The Hindus were making ocean voyages in the years B.C., whereas it was not till Columbus's epoch-making voyage across the Atlantic in 1492, and the discovery of Newfoundland by British seamen a few years later that any European seamen dared lose sight of the coast. Particularly after the discovery of the regular monsoon wind, attributed to a Greek called Hippalus in A.D. 45, seamen did not hesitate to cross the Arabian Sea direct.

Indians were trading with Egypt and the Roman Empire via the Red Sea many years before Christ. Professor Radhakumud Mookerji, in his "History of Indian Shipping and Maritime Activity from the Earliest Times" gives ample evidence of this from Indian literature and art, and from the works of Greek and Roman historians. For example, he quotes that in the first century A.D. Pliny viewed the drain

of Roman gold into India, to purchase Oriental products such as perfumes, unguents and personal adornments, with alarm and regret. Evidently the Roman ladies knew what was good.

Similarly from the ports of Southern and Eastern India, Hindus have crossed the Bay of Bengal since the dawn of history, colonising Pacific Islands in many of which their religion has survived. Long before the Christian era Hindus penetrated to Sumatra, Malaya, Java, Indonesia and China. Two of the early dynasties—Maurya (322 B.C.—185 B.C.) and Andhra (230 B.C.—225 A.D.)—proudly called themselves “Lords of the Eastern Seas”.

In 412 A.D. Fa Hien, a Chinese monk, describes an early ocean voyage in an Indian ship from Orissa to Ceylon, thence to the Nicobar Islands and home to China via the Malacca Straits.

In the fifth century the great Hindu Empire of Sri Vijaya was established in Sumatra, and by sea power it ruled Malaya, the Western half of Java and the adjacent seas. After 500 years their rule was challenged by the Hindu Chola dynasty and 100 years of naval war ensued. This gradually weakened the Sri Vijaya Empire, but it survived till about the fourteenth century, when ocean supremacy passed to the Arabs.

During the Hindu period of sea supremacy there was complete freedom of trade and navigation. Pirates were suppressed and the sea routes were kept open. There was no question of monopoly. Similar conditions continued until the arrival of the first Europeans, the Portuguese, in 1500. Until that fateful date the seas were used as a highway by Indians, Arabs and any other nationality. Nevertheless the gradual decline of the Hindu sea power did open the way to new arrivals.

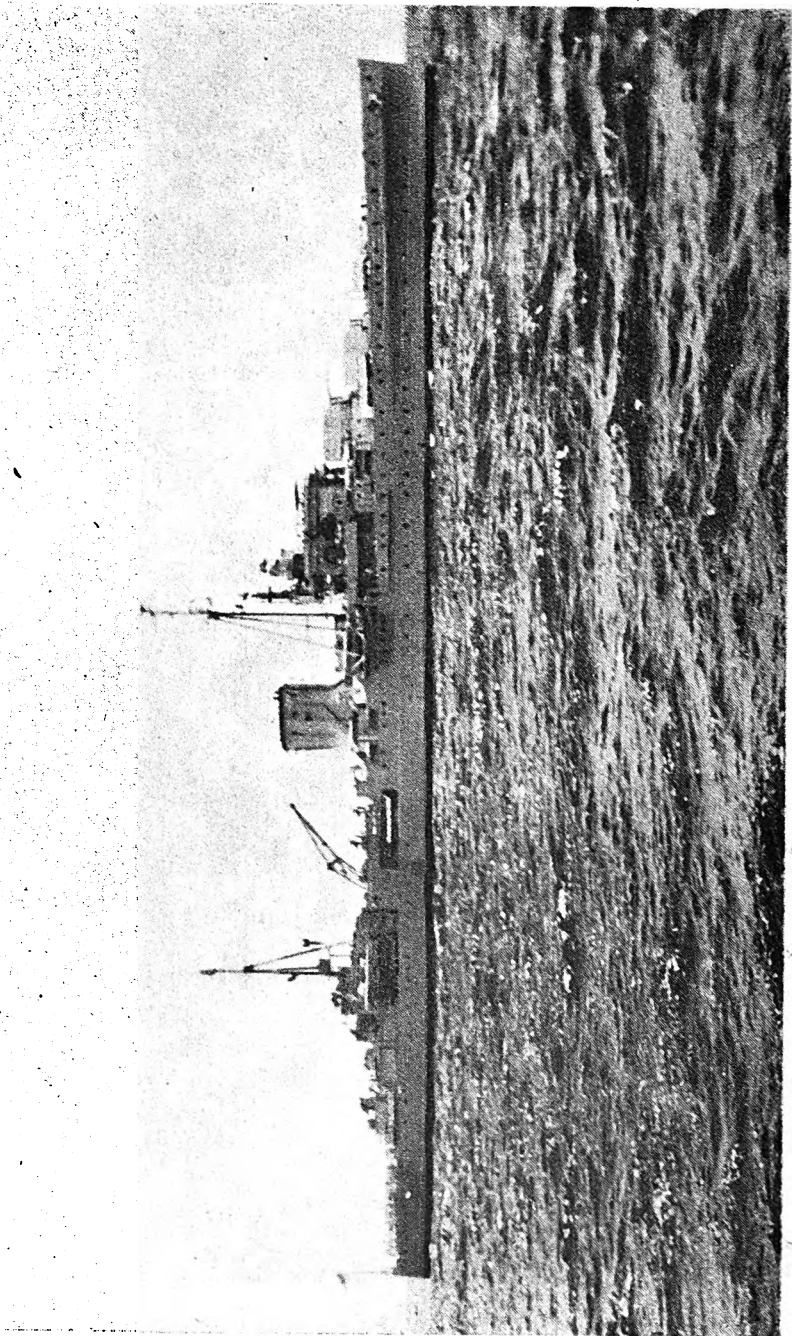
European interest in overseas trade also has a long history; but it remained essentially a coastal trade till the Portuguese voyages of the fifteenth century. In mediæval days spices from the Indies were much sought after and could usually be obtained by the Mediterranean route until the decline of the Greek Byzantine Empire. The fall of Constantinople in 1453, combined with the Englishman's love of roast beef which had to be preserved by spices, had a good deal to do with the European search for an alternative route to India.

Even the early Portuguese voyages were mainly coastal. Prince Henry the Navigator, who received the Pope's permission to colonise the Eastern hemisphere in the fifteenth century, followed the African coast down to the “Cape of Tempests” which was renamed the Cape of Good Hope because it was hoped that it would open the route to India. The first expedition into the Indian Ocean by Vasco Da Gama left Portugal in July 1497 and reached Mozambique, then an important Arab trading centre, in March 1498. Thence he at last left the coast, doubtless following the well established trade route, and arrived at Calicut in May 1498, the first European to reach India by the all sea route. This was a great event from many points of view, but *not* as a feat of navigation, since he was only following the Indians and the Arabs. The real significance of Da Gama's arrival lies in the policy of the Portuguese Kings, who looked on the seas and the land as their possessions. They based their claim to the whole of Asia and Africa on the Papal Bull. The following extract from the works of a Portuguese writer will serve to illustrate their attitude:—

“It is true that there does exist a common right to all to navigate the seas and in Europe we recognise the rights which others hold against us; but this right does not extend beyond Europe and therefore the Portuguese as Lords of the Sea are justified in confiscating the goods of all those who navigate the seas without their permission.”



VICE-ADMIRAL W. E. PARRY, C.B., R.N.
Commander-in-Chief, Royal Indian Navy



H.M.I.S. DELHI (ex H.M.S. ACHILLES)
Flag-ship of the Royal Indian Navy

Da Gama's first voyage was peaceful but it was followed by a very different one. Cabral, its Commander, tried to enforce the doctrine of monopoly of the sea. This was stoutly opposed by the Zamorin, the Indian ruler of Calicut; and Cabral evacuated Calicut after a brutal bombardment. The Zamorin then fitted out a strong navy consisting mainly of small fast ships, which fought the Portuguese with considerable success inshore; but proved ineffective in checking the rise of the Portuguese sea power. A battle off Cochin in 1503 showed the weakness of the Calicut navy to both sides. The Zamorin, realising the Portuguese ships were too strong, called for help from the King of Egypt, who sent a fleet to fight the Portuguese in 1507. They scored a considerable success over the Portuguese at a naval battle off Chau (near Bombay—then unknown). But this only served to put the Portuguese Viceroy, Don Francesco D'Almeida, on his mettle. He collected every available ship, sailed north to Diu, where he cut the Egyptian supplies, and fought an inconclusive engagement off Diu in February 1509. Though neither side won, the Egyptians having lost their supplies, sailed away. Thus sea supremacy passed to the Portuguese.

The battles of Cochin in 1503 and of Diu in 1509, though unheard of today, are significant events in Indian history. The first showed the Portuguese the weakness of the Indian Navies. The second left them free to pursue any oceanic policy they desired, and laid the foundations of European mastery of the Indian Ocean for over 400 years. Fundamentally these battles are far more important than Plassey and other land battles which feature so prominently in history books.

Soon after the battle of Diu, a very remarkable man, Albuquerque, became Governor of Portuguese possessions in the Indian Ocean. He was one of the few landmen in history who have shown equal talent in naval affairs. During his administration Portuguese sea power became supreme in the Indian Ocean. Suitable bases at strategic points are now recognised as a fundamental requirement of sea power. Albuquerque fully appreciated this and having set up his main base at Goa, he set out to consolidate his control of the Indian Ocean by establishing other bases at strategic points, which included Socotra at the entrance to the Red Sea, Ormuz at the entrance to the Persian Gulf, and Malacca in Malaya. Further, he made alliances with rulers of important coastal areas. Thus he consolidated his hold on the Indian Ocean. Although Portuguese sea power was already declining through the decay of her power in Europe, Albuquerque's strategy laid the foundations on which Britain later built up her Empire in the East. It is supremely interesting to see how the British profited from the foresight of their Portuguese predecessors.

There is, I think, an interesting lesson for India in this. The Indians of those days showed great aptitude as sailors, and for centuries they traded far and wide by sea. The Sri Vijaya Empire also maintained a useful navy, to protect this trade. With its decline, Indian sea power gradually declined also—first due to the comparatively peaceful penetration of the Arabs, and finally owing to the aggressive Portuguese assertion of their sea power. The Kings of Calicut put up a gallant fight for a century, showing real aptitude for fighting at sea; but they were no match for the Europeans. From that day Indian sea power has never been re-established.

The early naval history of the East India Company is most illuminating. Unlike the Portuguese, their main object was to trade. But knowing that the Portuguese were first in the field—Goa was established nearly 100 years before the British arrived—and would do their utmost to keep others off their preserves, they were prepared to fight; and they were indeed not averse to taking the offensive themselves and seizing valuable Portuguese ships during their earlier voyages. Their first trading post was established at Surat in 1607. During the next few years the Portuguese made several unsuccessful attempts to drive the British out in a series of naval battles. The Portuguese Viceroy of Goa himself, with a formidable fleet, appeared in 1615 but was heavily defeated. In 1622 the East India Company ships took the

offensive, and in alliance with the King of Persia, drove the Portuguese out of Ormuz, their stronghold in the Persian Gulf, and broke their power there. After this Portuguese influence gradually declined. By 1664 Portugal ceded Bombay to the British Crown, as part of the dowry of the Infanta Catharine of Portugal when she married King Charles II of England, and in 1668 the Crown leased Bombay to the East India Company at a rent of ten pounds a year.

In the meantime heavy naval fighting had been taking place between the fleets of the Moguls, in alliance with the British, and the Mahratta fleets under their famous leader Shivaji. Bombay, which superseded Surat as the main Depot of the Company in 1686, was frequently besieged, particularly when the East India Company had fits of economy and reduced their naval forces. In fact up to the end of the century the position of the East India Company was often very shaky. This was particularly so during the war between England and France which started in 1689 and finished in 1697. England was fully occupied in Europe fighting Louis XIV, and the Government was not in the least interested in what was happening in India. The French, on the contrary, sent a small fleet out to India which captured many British ships. However, the Company managed to keep going, protected by its own Navy, the Bombay Marine, the direct ancestor of the R.I.N.

The eighteenth century saw the rise and fall of French power in India. This was decided entirely by sea power. England always had one great advantage over France, in the greater volume of her merchant shipping. If, therefore, there were equal losses on both sides, France was weakened to a greater extent than England. This was one of the chief factors which led to France's final defeat. In naval wars the country with the biggest merchant navy usually wins.

Up to the middle of the century, the fighting had a purely commercial object. It was really no more than a struggle between the British and French East India Companies. For example, in the war of the Austrian Succession (1744-48) the honours were fairly evenly divided. France, under a brilliant land commander, Dupleix, captured Madras from the British mainly due to bad co-operation between the English Navy and Army. But England succeeded in stopping the flow of French trade while her own was not seriously interrupted. At the peace Madras was restored to Britain, and France had lost so much trade and shipping that her losses completely eclipsed the prestige she had gained by her success ashore.

In the next war—the Seven Years War, the fighting at sea was more serious, and was aimed at settling the question as to who was to be the predominant power in India. The British Government sent a fleet to Indian waters, which gained complete supremacy at sea. The French settlements at Pondicherry, etc., fell to the British. The great battle of Plassey was won against Suraj-ud-Dowlah by General Clive, who fully appreciated the security of his sea communications. At the peace the French settlements, and her trading rights, were returned to her, but England had gained complete predominance.

France had her last opportunity when she entered the War of American Independence in 1778. England had reduced her Navy during the years of peace for reasons of economy, while France under a far-seeing Minister, Choiseul, had developed hers. Moreover, as the war was caused by the American Declaration of Independence, it had not spread to Europe and so France was free of her usual land fighting. France was therefore able to send out a strong naval squadron under one of the best admirals in her history—Suffren. Before his arrival a small English squadron had no difficulty in maintaining British sea power against both the French and the Dutch, from whom Trincomalee was captured and became the British advanced base for further operations against Pondicherry. After Suffren's arrival, a number of battles took place at sea, resulting in a gradual decline of British sea power,

The French recaptured Cuddalore and Trincomalee, and but for the arrival of the peace the British would have lost the whole of South India. This most interesting campaign is about the only one which has been studied deeply by a naval historian, Admiral Richmond, who was Commander-in-Chief, East Indies, in the late nineteen-twenties, and incidentally was the first Commandant of the Imperial Defence College in England, and ended his days in a position unique for a naval officer as Master of a Cambridge College.

Since the campaign of 1782, the Indian Ocean has been to all intents and purposes a British lake. Consequently the land forces were never worried about their communications during their later land campaigns. Apart from a brief incursion by the *Emden* in 1914, its peace was not shattered till 1941.

LESSONS OF HISTORY

The point I want to make is that the fate of India has been decided time and time again by sea power. Why? Because India's geographical position, controlling the trade routes of the Indian Ocean both from North to South and East to West, makes her an inevitable target for any power possessing the means of attacking her by sea. On the other hand, if India develops her own sea power, she can control those trade routes, not only for her own benefit, but also for that of the whole world.

The late war gives one more warning to India. When the Japanese Fleet entered the Bay of Bengal in 1942, sinking the cruisers *Cornwall* and *Dorsetshire* and the small carrier *Hermes*, the British Fleet was forced to retire. Ceylon and the Eastern coast of India lay at the mercy of the Japanese. Why was it that the enemy failed to exploit this success? The answer lies in the recovery of the American Pacific Fleet from the disaster of Pearl Harbour, and its victory over the Japanese, by a very narrow margin, in the Battles of the Coral Sea and Midway Island. The Japanese never recovered from their losses, particularly of aircraft carriers in these battles, and consequently never succeeded in repeating their naval success in the Indian Ocean.

I wonder how many people in India realise that they owed their safety from Japanese seaborne attack to these two great American victories, which turned the rising tide of Japanese sea power in the Pacific?

The main lesson to be learnt from history is this. The Peninsular character of the country gives the sea a preponderant influence on its destiny. The economic life of India must be completely at the mercy of the power which controls the Indian Ocean. With an open coastline of over 2000 miles, India cannot be safe if the Indian Ocean ceases to be a protected sea.

British authority in India has always hung on the thin thread of safe naval communications. Until the middle of the eighteenth century the British hold on India rose and fell with the safety of those communications. From the French attacks in 1782 until the Japanese incursion into the Bay of Bengal in 1942 the thread seemed strong enough. But if the control of the Indian Ocean is again disputed, India will be no more safe than was China during the nineteenth century, when she was the cockpit of European ambitions, or during the late war when she was completely dominated by Jap sea power.

And yet India's geographical position should enable her naval and air forces, when they become strong enough, to dominate the Indian Ocean, in conjunction with the power controlling its exits and entrances. The Indian Ocean has been a British lake for nearly two centuries not only because of her strategic control of India, but also because Britain occupied the Eastern entrance at Singapore, and

the Western Entrances at the Cape and Aden. With the world as it is today, collaboration with Britain from the naval aspect is essential. But this need not mean dependence on Britain. If India has suitable naval and air forces, based on the Peninsula itself, and the Andaman and Nicobar Islands to the eastward, she can herself protect the main sea communications inside the Indian Ocean.

THE ROLE OF THE INDIAN NAVY

Why does India need a Navy at all? For some centuries now she may claim to have got on very well without one, and this has certainly enabled her to afford large armies, which have won imperishable renown in battle, and have defended her from land attack. If she is so liable to attack from the sea, why hasn't it materialised during the period of British occupation?

The real answer of course is that any danger from the sea has been averted by British sea power, and in World War II by American sea power. There has been no need for her to maintain a real Navy, since her sea communications have been secured by the Royal Navy. The British East Indies Squadron, based on Trincomalee, suitably reinforced in war, has prevented any serious interference with her trade route. And whatever people may say of British Imperialism, the presence of the Royal Navy did ensure a greater degree of peace throughout the world for the century after the Napoleonic wars, than in any century since the fall of Rome.

Unfortunately the Pax Britannica came to an end in 1914; the two World Wars have weakened England so much that, for better or worse, that era has gone for ever.

I would like to draw your attention to two results. The first is that India has gained her independence sooner than she would have done otherwise. Independence would have come any way—and whatever may be said of my country's politicians, the trend has always been towards the granting of freedom. Look at the great British Dominions of Australia, New Zealand and Canada; and even a predominantly non-British Dominion, namely South Africa, which was granted full Dominion Status within a few years of a bitter war against England. The late war undoubtedly accelerated India's independence, and her acceptance of the responsibilities which go with independence. And one of these is that she cannot expect other people to defend her, by land, or sea, or air. She must learn to defend herself by sea, as well as she already does by land.

Another result of the war is that the United Kingdom is greatly weakened economically and she is no longer the strongest power in the world. Consequently, even if she wished to control the oceans of the world, she can no longer do so. She must share her sea power with others. Fortunately she has good friends in the British Dominions and in her American cousins, all of whom have inherited her seafaring traditions. And I hope too she has a good friend in Asia who may perhaps see fit to renew her own sea traditions.

As a result of these effects of the Second World War, India must develop a real Navy. Unless she does so, she will remain completely dependent on her Allies, or if she has no Allies, on the goodwill of one or other of the Great Powers.

One day India will become a Great Power herself; but I venture to think it will only be if she pays at least as much attention to her ocean frontiers as she already does to her land frontiers. For it is mainly across those ocean frontiers that she can carry on that friendly intercourse which will ensure her influence with the rest of the world.

India has of course had a small Navy since the formation of the Bombay Marine in 1612. But from the earliest days the Bombay Marine and its successors

the Royal Indian Marine and the Royal Indian Navy, in spite of many a gallant fight, have only been designed for Local Defence, i.e., the protection of local coastwise shipping and of the sea coast, against limited opposition.

The real struggle for sea power on which the fate of India has been decided, has been fought by ocean going Navies of a different calibre. India has never possessed the "Capital Ship" of the day, whether it was the line of battle ship of the sailing-era, the ironclad of the last century, the battleship of the two World Wars, or the large aircraft carrier of today. If India is to become a real sea power, she must be capable of protecting her own trade and her own shipping with a real modern Navy, containing all types of ships and aircraft, on the sea, over the sea and under the sea. Though designed for the defence of India's interests, it must be capable of offensive action against the enemy, for no war has ever been won by purely defensive measures.

We are therefore planning to build an Indian Navy, containing all classes of ships necessary for modern naval war, and capable of expansion when the necessity arises. The first step must be to train the necessary seamen and airmen for this Navy. Unfortunately we lost all our permanent training establishments by partition, and so we must build a number of new schools.

Having acquired our first cruiser and the three destroyers, we must build up our man-power for at least three years before we can acquire more ships. Simultaneously we are starting our naval aviation with a view to training the necessary personnel to man aircraft carriers in years to come.

We also fully realise the tremendous importance of full co-operation with the Royal Indian Air Force in defending our coast and our shipping. Unfortunately the Royal Indian Air Force has been unable so far to contemplate any training in a Coastal Command role. In due course we shall welcome its co-operation in working out the air aspect of defending our sea communications.

Similarly we must be ready to work with the Army in combined operations. We are retaining a few samples of the landing ships and craft used in the late war, ready for the day when we can prepare for any landing operations needed in the future.

Summing up, therefore, the role of the Royal Indian Navy is to play its part in building up India's sea power.

It must be trained primarily as a fighting force, capable of protecting India's sea communications in war time. Presumably this must include all the trade routes of the Indian ocean. In order to carry out this role, it must be capable of offensive action against a hostile force in that Ocean. Our sailors must be trained in such a way as to develop that offensive fighting spirit which alone wins battles. Consequently a purely defensive Navy is not good enough.

It must also be organised for full co-operation with the Royal Indian Air Force in defending sea communications and attacking any hostile ships or aircraft.

It must be trained to co-operate with both the other Services in Combined Operations overseas, for the invasion of enemy territory.

Finally in peace time, while remaining fully prepared for its war-time duties, it must spread the gospel of peace. Welcoming H.M.I.S. *Delhi* the Prime Minister of India, in his address at Bombay in September 1948, particularly emphasised that although we are all men of peace, strength is necessary to deter a would-be aggressor. Consequently India must have strong armed forces. The Royal Indian Navy must therefore be ready to fight. But in peace time by "showing the flag", not only on the Indian coast but also in other countries, its officers and men must be ambassadors of their country, proving by their behaviour that India breeds men worthy of the respect and admiration of all the world.

SIGNALS ASPECT IN INDIA'S ARMED FORCES

BRIGADIER B. D. KAPUR

I BEGIN this article with a quotation from an American magazine: "Communications are vital in all phases of national defence. Large scale operations in the air, on the land and on the sea would be impossible without overall communications." This statement is written as a result of the never-to-be-forgotten lessons learnt in the late World War. Commanders who wielded large formations spread all over the countryside and exercised complete control over operations know the place of communications in modern warfare. They know through personal experience that developments in communication technique facilitated widespread operations which extended in frontage and depth over a great part of North Africa, Western Europe and the Far East.

Signal communications have assumed a vital role in the modern technique of warfare. As mobility and dispersion of forces is increased electrical communications will become the mainstay of wars. Radio played an important part in World War II. It will dominate future wars. A force equipped with the best radio equipment will always find itself in an advantageous strategic position. But this aspect of modern Armed Forces has not been given the serious consideration it merits in our newly-reorganising Indian Forces.

An attempt is made in this article to discuss an ideal set-up of Signals in India's Armed Forces in order to ensure a modern communication system which should not only facilitate communications under any conditions but also simplify co-operation and co-ordination among the three Signal Services of the Navy, Army and Air Force.

PRESENT SET-UP

To comment on our present organisation. The three services function within their own water-tight compartments almost just as much as they did pre-1939. The detailed working of each service is still a closed book to the other services. In communication matters this forebodes disaster in future wars. World War II has proved beyond doubt that every operation is a combined operation now. It is either the Army and Air Force combined effort or Navy and Air Force or all the three Services closely co-operating with each other when embarking on an operation. To achieve the necessary co-ordination right from the planning stage to the execution stage this has very serious technical implications in intercommunication matters. As at present organised all the three signal services talk a different language, have different methods of laying out plans on paper. Their signal procedures, their equipments, their training are all peculiar to themselves. No effort has been made to co-ordinate and standardise so as to facilitate an integrated system of intercommunications on which depends largely the success or failure of a combined operation. (Even

since the late War simple operations like the peaceful landings around Junagadh brought home the necessity for one common signal service. Then, what is the answer?

It is first necessary to enumerate the principles for a sound co-ordinated Services intercommunication system in India. These principles are:—

- (1) A co-ordinated communication policy issued from one Head.
- (2) A common signal procedure to be adopted for all the three Services.
- (3) To achieve close working within the same machinery in an operation, all signal training should be standardised in the three Services.
- (4) Equipment should be standardised in the three Services.
- (5) Production and development of equipment should be co-ordinated. Any organisation for this should be very closely linked with the Civil Development and Research Organisation.
- (6) A close liaison should be established right down the chain of command with the civil communication services particularly with the P. & T. Department which caters for the static line communications for all Services.

COMMUNICATION POLICY

The provision of lines is primarily the responsibility of the P. & T. Department, terminal apparatus being provided and operated by service personnel. During the late War the Army was responsible for the provision and maintenance of the entire trunk line communications to the Navy and the R.A.F. on the Lines of Communication, except that in the case of the Navy the telegraph circuits were operated by Naval ratings. But even for these, Army personnel had to be loaned sometimes to operate and maintain the teleprinters. Obviously the answer appears to be that the Army as the major user of line communications, should be made responsible for the provision and maintenance of all trunk land line communications for all the three Services, thereby ensuring a high degree of efficiency by dependence of all on the one service concerned with this as its normal task. And that appears to be the very simple solution for line communications.

But the problem of close co-ordination in wireless communication matters should not be underestimated. The allocation of frequency channels, standardisation of equipments as far as practicable for inter-service working, codes and standard ciphers, are some of the complexities which come to one's mind without one's indulging deep in the technical co-ordination required to avoid duplication and the resultant unnecessary waste of equipment and manpower. This task is at present handled, to a limited extent, by the Services Communication Board and, in War, is taken over by local Inter-Service Communication Boards set up in each theatre or portion of a theatre of War. To achieve this co-ordination in the late War, representatives of the R.I.A.F. or Navy

found a chair within the offices of Chief Signal Officers of the Army formations. It was very much due to such local co-ordination rather than to the much-desired directives of communication policy from higher above that an integrated system of communications in War theatres became possible. Yet, the need for a policy directive on communications in a particular theatre was always felt. The need for such directives becomes more necessary with the intricate and complex network of intercommunications increasing in all services. The development in communication system and the introduction of beamed multi-channel ultra-high frequency equipments from point to point, say land-air-ship-shore, will involve a very high degree of co-ordination. Are we to let the impressions of such lessons fade away with the passage of time until the next emergency wakes us to rude realities again? If not, then the answer must be found. Let us discuss this problem from other aspects before a solution is arrived at.

COMMON PROCEDURE

In General Headquarters (India), I once raised the question of adopting common signal procedure for the three Services at an Inter-services Training Committee meeting. The reaction of the Navy and Air Force members was very favourable but the Committee decided to defer the question until a more favourable time. I have since heard of no further progress.

In a few simple words "signal procedure" may be interpreted to mean the language of the signallers. This "language" is used for establishing and controlling communications and clearing messages which carry all the "meat" for the direction of operations. Admiral the Viscount Mountbatten of Burma speaking on this question of integration in his address before the British Institution of Radio Engineers in October, 1946, said: "In the earliest days of Combined Operations planning, the existing variations in equipment, procedure, and general technique presented a great obstacle, and it soon became clear that, if the three Services were to think, speak, plan and act as an integrated whole, this would involve integrating the technique of service communications to the greatest possible degree....."

How can this integration be possible if the signallers of the three Services use a different "language" which is un-understandable to the other services. Of course the result would be chaos, unless before a particular combined operation is mounted a great deal of hard work is carried out in working out a fixed drill for the co-ordination of communications and the whole process is rehearsed time and again. Then, take the case when an ad hoc combined operation is to be carried out at short notice. Results are obvious under present conditions. Shouldn't therefore the signal procedure for the three Services be common—just one "language" of the signaller irrespective of the uniform he wears or the different designation of rank given to him?

STANDARDISED TRAINING

To achieve what has been said above, one standard policy of signals training should be adopted for the three Services. Certain exceptions peculiar to the nature of a particular service may have to be made. For example, the Navy must still maintain a very high standard of visual intercommunications; on the other hand the doctrine for Radio training should be common to the three Services. In

fact this is the common means of intercommunication between the three Services.

Besides enabling smooth working between the Services, standardised training would also facilitate assistance in technical training from the civil technical institutions in the event of a state of emergency being declared in the country; the scope for expansion of services would also increase manifold. And thus on a standardised basis of instruction, the whole nation's technical manpower would be ready to meet the state of War. But mere training cannot be standardised without a degree of standardisation having been achieved in the equipment used by the Armed Forces and the civil services.

STANDARD EQUIPMENT

The variation in the equipment at present in use in the armed services is tremendous. Unnecessarily large numbers of different types of equipments, different in design and operation, are used for the same purpose. It should be quite easy to reduce the types to the minimum necessary to meet the requirements. Thus a degree of standardisation could be achieved.

At present every part of communication equipment is procured from foreign countries. Piece-meal attempts are being made to manufacture some of the equipments in India without any effort at standardisation. Nor is there the requisite co-ordination to achieve one standard for all the three Services for the same requirements. Once the requirements could be concentrated into the minimum number of standard equipments, the manufacturers, be they Government sponsored or a private body, could then get a clear idea of the demands of services.

The importance of an organisation to co-ordinate and standardise equipment has not so far been fully appreciated. In the writer's opinion such a set-up is most essential if the task of manufacturers is to be made easy. The Indian manufacturer is very keen but needs a clear technical specification before he can invest large sums of money.

To understand the detailed examination required even for one service to crystalize their specifications, the following processes are necessary:—

- (a) A General Staff (G.S.) specification as to what is required to meet the tactical requirements.
- (b) A technical specification whereby the G.S. specification is translated into a suitable form for development to proceed or purchase to be effected.
- (c) The development of the equipment either by a service establishment or by a manufacturing firm.
- (d) A technical examination of pilot models and field trials of pilot models.
- (e) Completion of the final specification and the placing of orders for production.
- (f) Investigation of defects and the drawing up of modifications instructions.

Even before the whole cycle of the above processes is gone through an attempt could be made to study the usefulness of the particular item in so far as it affects other services, thus keeping up-to-date with new ideas. The answer appears to be an Armed Forces Communication Equipment Standardisation Committee which must come under the control of the Defence Ministry and must closely 'liaise' with a similar body for the Civil Communication Services.

PRODUCTION AND DEVELOPMENT

It is not the intention of the writer to criticize the present policy regarding production of communication equipment in the country. But this much will be stressed that the time is not ripe to nationalise every essential industry particularly as the technical manpower available presents an unsurmountable problem. The writer has had the opportunity of discussing production of signal equipment in India with some of the firms in Bombay. The general trend of thought among the budding manufacturers appears to be:—

- (1) We have no idea of the requirements of the Armed Forces.
- (2) Once given the idea and specific requirements we could start production in the country beginning with assembly only in the first phase.
- (3) If the Government co-ordinates the production of all firms interested in producing tele-communication equipments through a controlling body, local manufacture of a number of equipments will be facilitated.
- (4) In the initial stages a very close co-ordination is required between the user and the producer.

During the late War, it is understood the Ministry of Production in the U.K. established a controlling interest in the manufacturing firms, in an effort to co-ordinate their production. Each firm was ordered to produce on a large scale a particular part or parts of an assembly and no more. Certain other firms carried out assemblies only. Thus mass production was achieved in quantity hitherto unbelievable.

In our country, where we are also going through a state of emergency in setting the country on an independent footing, the same measures are most urgent. This will also give an opportunity for detailed research and development on each particular item of an assembly.

In the "assembly" factories, Armed Forces "cells" should exist to guide and help the producer in research and development. Any co-ordinating body for production should also include members from the Armed Forces.

Lieut.-Colonel Bates of the Technical Development Directorate in a paper on the production of wireless equipment in India, has suggested a suitable organisation in India to meet the above requirements. He has suggested a Central Telecommunication Board (CTB) where research, development and planning of equipment may be discussed and co-ordinated. All Government Departments and Directorates

interested in the subject would be represented on the CTB. The Board would require the following committees to advise:—

- (i) Research Committee.
- (ii) Development Committee.
- (iii) Production Committee.
- (iv) Personnel Training Committee.

Each of the above Committees would require sub-committees to consider wireless requirements, radar requirements, planning and such other matters as may be necessary from time to time. This scheme is laid out in Chart I.

My only amendment to this is the addition of Equipment Standardisation Committee and Line Requirements Sub-Committee under each Committee.

LIAISON WITH ALLIED SERVICES

A close liaison among all the communication services is essential not only from the point of view of producing a duplicated, infallible system of communication within India, but also because the civil services will have to provide the technical manpower to meet the requirements of the Armed Forces in future Wars. Discussing this manpower problem in an article entitled: "Engineers in India's Modern Army" published in the July 1946 issue of this Journal, I wrote as follows:—

"Most of the high grade technicians of the Army in the late War came from the U.K. In future Wars India will have to draw upon her own civil technicians. Why not start working to that end? We have been taught our lessons. Lack of liaison between the Army engineers—civil, mechanical and tele-communication—and those of the allied civil technical departments, particularly the Indian P. & T. and the Railways, became most apparent. Lack of knowledge by Army Officers of the organisation and functions of the civil departments, and the failure of the civil officers to fully appreciate the capabilities of the Army engineers and the requirements of the Army, led to difficulties in co-operation. Hence for the future we must foster mutual understanding between the Army and the Civil technical services, and for this purpose officers should be given a quota of vacancies in the civil technical services for a **tour of duty**, say three to four years."

This was written over two years ago. Since then many new communication services have been established in India. The civil aviation intercommunication network in India is not only being spread all over the country, but is being set up on a most modern basis, incorporating the latest equipment and the latest electronic devices. The Police in India have become wireless-minded; every month adds more to their requirements. The Railways would not lag behind in setting up a modern telecommunication system, both line telegraph and wireless, if the transport system is to improve its efficiency. And lastly, the P. & T have also decided to set up a high-powered wireless network in India. All these services have only just begun operating. With the passage of time they will expand, thus tying up an enormous trained technical manpower, a portion of which in an emergency could

be easily diverted to the Armed Forces. With the increased output from their training establishments, the needs of any emergency could be easily met. But?..But a very close co-operation with the Armed Services is required for the training of this manpower if it is to be utilised to full advantage in a national emergency. And this co-operation can only be achieved on a Ministry level, where the interests of the Armed Forces can always be borne in mind in every phase of national training and national progress.

In addition to the liaison required for the potential technical manpower for the services, close co-operation is required in communication planning of the civil services in order to utilise to the best advantage the facilities provided by all the communication services in an emergency. This co-ordination is achieved to some extent through the Inter-Departmental Wireless Advisory Committees being set up in each P. & T. circle. Through the present method of co-ordination only information is passed regarding the wireless network in use or planned by each service. No executive control exists to adjust and integrate all these systems in an emergency. And this control can only be exercised on the highest level by someone who is *au fait* with the general intercommunication systems in use by all services in peace.

RECOMMENDATION

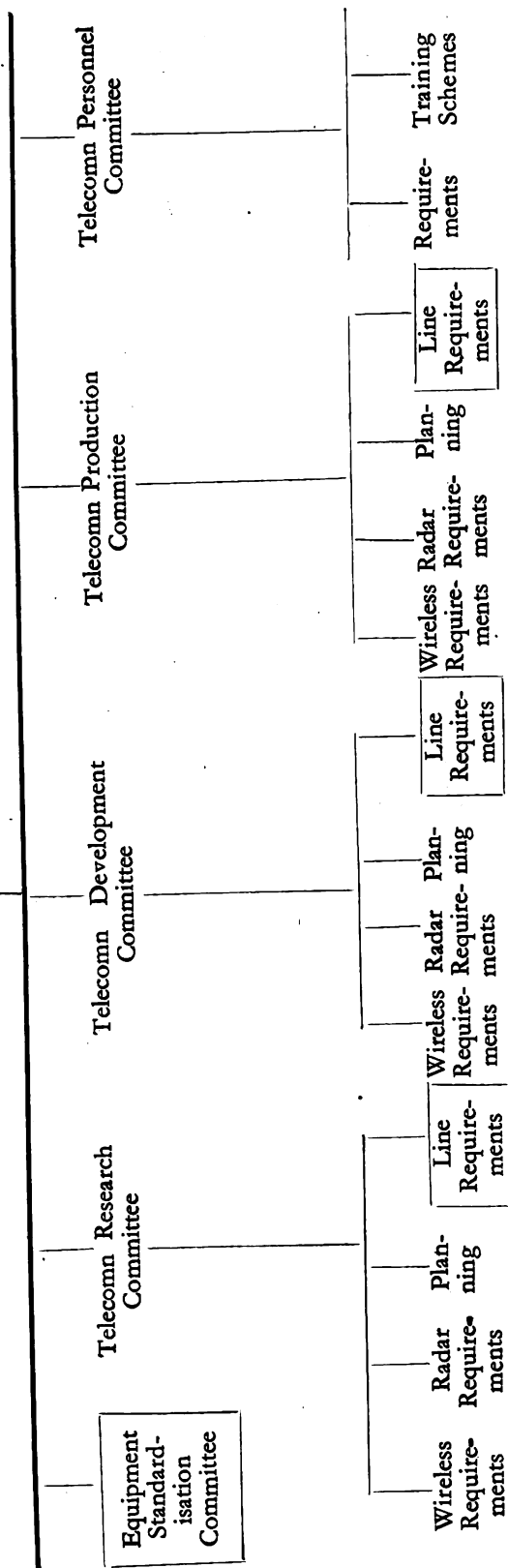
The discussion above leads to one definite conclusion and that is: A central controlling authority is required on the highest level to formulate the communication policy in the Armed Forces and co-ordinate and standardise the communication systems of all the services including the civil communication services. The charter given to this authority should cover the following responsibilities:—

- (1) Issue communication policy for the Armed Forces.
- (2) Initiate signals doctrine for the three Services.
- (3) Co-ordinate the technical training at all signals training establishments of the Army, Navy and Air Force.
- (4) 'Liaise' with signal training establishments of the P. & T., Railways, Civil Aviation and the Police.
- (5) Standardise signal equipment in the Services.
- (6) Initiate development and research of equipment from user point of view.
- (7) 'Liaise' closely with the civil communication services with a view to integrating the entire communication system in India in an emergency.
- (8) Raise and train potential technical manpower for the Services.

Due to the importance of his job and the level at which this official must work, he should form part of the Defence Ministry. He will act as adviser on communication matters to the Chiefs of Staff Committee.

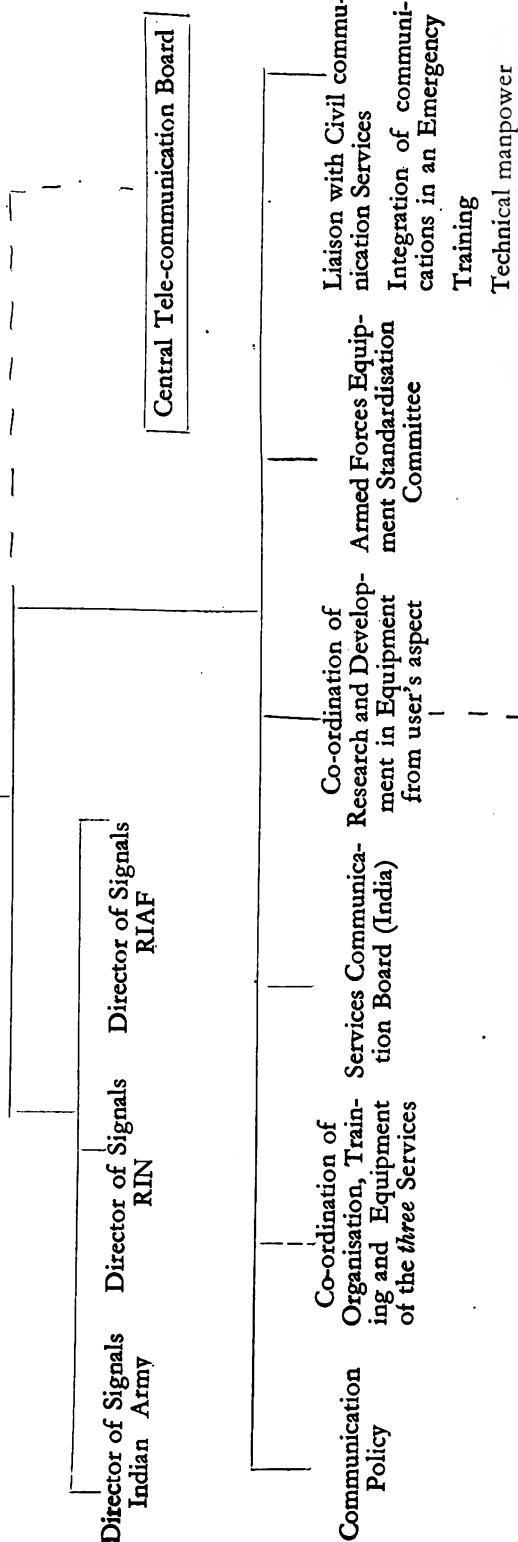
A set-up which will meet the requirements discussed is shown in Chart II.

CENTRAL TELE-COMMUNICATION (RESEARCH, DEVELOPMENT & PRODUCTION) BOARD



SECRETARY DEFENCE MINISTRY

**Director General of Signals (Major-General)
or equivalent
Naval/RIAF rank**



Central Tele-communication Board

Link up with Civil
electronic development
organisation

Link up with organisa-
tion of Director of
Technical Development

CONCLUSION

This paper is written after a great deal of thought. It aims at radical changes in the existing organisations. But these changes must be accepted if we are to adapt ourselves to changing conditions.

These changes follow as a corollary to the changed technique of warfare. Field Marshal the Viscount Montgomery has, in both his books, "El Alamein to the River Sangro" and "Normandy to the Baltic" brought out the need for the three Services to function as one in modern warfare. If the three services must work as one integrated team, how can the means of putting their orders into effect be allowed to operate as three different, un-co-ordinated organisations?

Museum Collection of Wartime News-Sheets

A museum collection that is very much out of the ordinary is being assembled in London at the Imperial War Museum. It is made up of newspapers, magazines and wall news-sheets produced by soldiers all over the world in both world wars. It is the only collection of its kind.

Thousands of exhibits have already been got together. They include hand-written sheets issued each day in German prison camps, newspapers published by troops serving overseas, and secret journals distributed by members of resistance movements at the risk of their lives.

They give a vivid impression of humour and boredom, and of the indomitable courage of soldiers in all phases and conditions of warfare. Some of these journals ran for only two or three editions, while others came out regularly for years. Most prison camps had their own news—sheets. One soldier, although moved from camp to camp, contrived to write a newspaper with unfailing regularity for five years wherever he went.

POST-WAR OPERATIONS IN MALAYA

MAJOR T. J. HUTCHINSON

MY Battalion left Siam in January 1946 and moved with the remainder of the Brigade by sea to Malaya. The voyage was enlivened by our ship, *The Highland Brigade*, striking a mine in the early hours of 18th January, when about forty miles outside Singapore. The engines and wireless were disabled, but nothing worse occurred: and, after an exciting time trying to disembark troops in a ground swell down rope ladders into LCAs, we were towed into Singapore and disembarked two days later.

The Brigade moved into the North Johore area, about a hundred miles north of Singapore. The Battalion was stationed in a large Dunlop Rubber Estate, which had been thoroughly looted and stripped of everything movable by Chinese bandits, after the withdrawal of the Japanese in August/September 1945. Our main role was to give support to the local police and to endeavour to raise civilian morale by extensive patrolling in an area where previously looting and hold-ups by Chinese gangs had been taking place on a large scale.

In the middle of February the Battalion moved up to North Malaya to take over duties from 25 Indian Division, who were returning to India. The Battalion arrived in Kuala Kangsar in North Perak on 10th February and proceeded to send out detachments to various small towns spread over a large area. By 18th February the Battalion was disposed as follows (see Map):

Bn HQ & two Coys	at Kuala Kangsar
One Coy one pl	at Grik
Coy H.Q. & one pl	at Lenggong
one pl	at Chenderoh Dam
One Coy less one pl	at Sungei Siput
one pl	at Manong

The situation was comparatively quiet for about a week and all detachments were able to settle in. Then, on the afternoon of 23rd February, two Malay Government servants were murdered in the area of mile 80 on the Grik-Lenggong road. At the time of the incident they were riding on a motor bicycle towards Lenggong, and had just passed through the village of Kenering. For various reasons the news of this murder did not reach Kuala Kangsar until late on Sunday, 24th February. A British Major, who had previously served with the K.M.T. Chinese guerrillas in this area whilst attached to Force 136 during the Japanese occupation, was at once sent up to Lenggong with the Brigade Intelligence Officer, with orders to accompany a patrol to the scene of the murder early next day, and to carry out an enquiry and search for the missing men or their bodies.

Accordingly a party, comprising the ex-Force 136 Major, the Company Commander, the Brigade Intelligence Officer and ten Sikhs, left Lenggong by MT at 0700 hrs on 25th February. On reaching the area of the murders they debussed and moved into the jungle. They very soon met a party of Chinese armed with sten guns and an LMG, who opened fire on them. Owing to their weak strength they were forced to withdraw towards the road, coming under fire from a different direction as they did so. A short while later a jeep, which

had been sent down the road towards Lenggong, was also fired upon by an LMG. Meanwhile, the Brigade Intelligence Officer, who had moved in another direction with two sepoy, had disappeared. The two sepoy rejoined the party almost immediately, but the officer had not returned by the evening.

There was now a considerable delay before news could reach Lenggong and any reinforcements arrive. It was also unfortunate that the G.O.C.-in-C. Malaya Command was visiting the Battalion on the same day, and that during the morning both the Brigade Commander and the Commanding Officer were away from Kuala Kangsar.

However, during the day reinforcements reached the area and by evening a force of approximately two platoons was engaged, whilst during the afternoon Bn Tac HQ, with a 22 set, a further platoon and a section of 3 inch mortars, reached Lenggong. The G.O.C., Divisional Commander and Brigade Commander were also in Lenggong by 1500 hrs on the normal inspection visit.

Owing to the lateness of the hour, it was decided not to send any more troops up the road—the distance from Lenggong to the scene of the “battle” was about twenty miles along a narrow twisting road—but to withdraw the small force already there and restart operations the next day. The Brigade Intelligence Officer was still missing, but the rest of the party returned to Lenggong by 2100 hrs, their withdrawal being delayed by three fallen trees across the road.

The main troubles during the first day's operations had been the lack of communications, and the fact that the rest of the Battalion was fully occupied in guards and duties in Kuala Kangsar and other places. The only available reserve was two platoons and a section of mortars, which did arrive in Lenggong with commendable speed, but too late to be used further up the road. Accordingly the Divisional and Brigade Commanders decided to make available two companies from another battalion in Taiping, until such time as the Battalion could be relieved of all other duties, to enable it to operate in strength in the Lenggong-Grik area.

Before relating the events of the next days, it would be as well to give the general background to the situation in the area, leading up to the murders on 23rd February.

During the three years of Japanese occupation in Malaya, the Chinese offered stubborn resistance. They formed themselves into gangs, who lived in the jungles and carried out raids and laid ambushes against Japanese convoys and small parties moving on the roads. In the later years they were assisted by liaison teams of British officers and were also supplied with arms and ammunition; all these, including the officers, being dropped by the RAF. This is a very brief and inadequate description of the splendid work carried out by Force 136 in Malaya during the War years; it is only meant to give a general background to the picture.

After the re-occupation of Malaya by our forces, these Chinese guerrilla bands were invited to come in and hand over their arms, thereafter to resume their lives as peaceful citizens. The majority agreed to do so, and a considerable number of arms was actually handed in. However, the KMT band in the Perak valley, owing to a misunderstanding, took to the jungle at the end of November 1945 and continued to operate as a gang, principally against the Malays, whom they held up on the roads and robbed, and from whom they extracted tolls.

At the time of the arrival of the Battalion in North Perak, negotiations had been going on for some time to induce this gang to come in and hand over their arms. The double murder on 23rd February rudely disturbed these negotiations, and the

Battalion was given the task "to restore law and order in the civil area of Lenggong-Grik, and to take all steps to apprehend the murderers"—also, of course, to effect the return of the missing Brigade Intelligence Officer.

The operations which followed, and which lasted for nearly two months, were mainly carried out by the Baluch Battalion operating from the North in the Kroh-Betong area, and by my Battalion in the Lenggong-Grik area. Both Battalions had the support of Field Artillery (25 pounders), Sappers, and Armoured Cars, whilst RAF Spitfires carried out reconnaissances over the whole area.

One of the main features of the operations was the political aspect, which, while interesting, considerably hampered any offensive action by our troops. The atmosphere at the time was definitely that of communal tension between the Chinese and the Malays. The former were necessarily considered the aggressors, but at the same time negotiations were never completely broken off with the KMT band, who almost immediately admitted that they were holding the Brigade Intelligence Officer as a hostage with a view to obtaining more favourable terms. We, for our part, held two of their leaders as hostages for the Bde I.O.'s well-being. These hostages played an important part in the negotiations.

Contact with the KMT guerrillas was maintained by (a) two ex-RAF officers, who were Official Advisers on Chinese Affairs, (b) an influential but at the same time rather "bogus" Chinese Colonel from Singapore, who held credentials from the Generalissimo himself and (c) the Chinese Clubs in Grik and Lenggong, certain influential Chinese tradesmen in Kuala Kangsar, and a rather doubtful building on the Lenggong-Grik road at mile 76 (about $3\frac{1}{2}$ miles from the scene of the murders) from where the KMT gang were supposed to get their supplies. The latter sources were far the most successful, and were the routes by which letters were sent to the leaders, and by which also food and clothing were regularly sent to the Bde I.O., who was even allowed to send replies.

At the same time close contact was kept with the Malay population, particularly in Grik, chiefly through the local Malay police. Both sides continually complained about the other: the Chinese at once complained if the military took any offensive action: whilst the Malays gave exaggerated, and sometimes quite untrue, reports about the numbers of armed Chinese collecting in various areas, in the hope that we would attack them. It became very difficult to assess the truth of such reports, and frequently entailed difficult and fruitless patrols being carried out by our troops.

The general situation and political atmosphere in the area has been described at considerable length because, without it, it is not possible to obtain a true picture of the conditions under which subsequent operations were carried out. Our hands were always tied by the knowledge that any undue offensive action by our troops might result in relations with the KMT gang being completely broken off, causing the forfeiture of the Bde I.O.'s life and giving no hope of an eventual settlement and restoration of normal life and freedom of movement in the area—which was the ultimate object of the British Military Administration in Perak.

It only remains to state that the country in which the Battalion had to operate was considerably worse than anything met with during the War in Arakan and Burma. The jungle was very dense, all tracks had become completely overgrown, the climate was very humid with frequent rain, and the River Perak provided a formidable obstacle, as the majority of patrols sent out had to cross it. In addition, all men moving in the jungle were greatly troubled with leeches, which were more numerous than in Burma. One Sikh Jemadar, on returning from a two-day patrol, appeared to be covered with blood, having at least fifty leech bites on his body. Men came back from patrol completely exhausted and with their clothing torn to

shreds. Although the Chinese avoided contact whenever possible and invariably withdrew, yet the general conditions were worse than during the fighting in Burma against the redoubtable Jap.

To revert to the action taken by the Battalion on 26th February and subsequent days, the two companies from the Taiping Battalion arrived in Lenggong during the night 25/26 February. At dawn the column set out to the scene of the previous day's action: the total strength was two companies from Taiping, one composite company from the Battalion and a total of nine 3 inch mortars from the two units. The road was again blocked by a tree: but there was no evidence that it had been felled to serve as a road block: however there was no way round and the tree had to be cut through, which caused a delay of nearly an hour.

On arrival at mile 79, the column debussed. A plan had been made to surround the area with two companies, whilst the third moved in to clear the scene of the previous day's battle and to arrest any suspected persons, supported by mortar fire from the road, which was the only suitable area where mortars could be brought into action. However, soon after the leading company moved off the road, sniping commenced. The jungle was very thick and thus, combined with the sniping, progress was very slow. However, the plan was eventually carried out, the guerrillas driven back, and the third company entered the area and searched and burnt the Chinese kampong (village) to prevent the guerrillas re-occupying it.

There were no casualties on either side, but during the day the body of Syed Ali, one of the two murdered Malay Government servants, was found in a stream near mile 79. The column withdrew to Lenggong in the evening, where the Brigade Commander gave orders for continued offensive action in the area of mile 80. During the afternoon a letter was received from the Bde I.O., stating that he was alive and well and was being held captive by the local KMT leader. A reply was sent through the Cantonese Club in Lenggong. The two KMT delegates were retained as hostages against the safe return of the Bde I.O.

Early next morning, 27th February, a platoon from the company in Lenggong, under the Company Commander and accompanied by a Police Officer from Kuala Kangsar, moved to the scene of the previous two days' action. Once again they were fired upon by about six guerrillas, armed with rifles.

As soon as another company arrived in Lenggong from Kuala Kangsar the main force moved up the road to mile 79. One company remained in the area all day, encountering further minor opposition and picking up the body of a Chinese in KMT uniform; another Chinese was claimed to have been wounded. The area was completely searched and cleared of guerrillas. After this day no more opposition was met in this area, despite periodic ambushes and searches. The guerrillas had obviously abandoned this area close to the road and had moved deeper into the jungle.

Meanwhile, the remainder of the column had moved further up the road to Lawin, where patrols searched the area all day, but without result, despite rumours of eighty guerrillas in the area. The column again withdrew to Lenggong for the night, this time leaving a company in Lawin, with orders to lay ambushes and to search the original area at first light.

The same evening orders were received that the Battalion would be freed from all duties in the Kuala Kangsar area in order to restore law and order and apprehend the murderers in the Lenggong-Grik area.

The events of 25th, 26th, and 27th February have been given in detail to show the type of opposition we were up against. From the 28th February onwards.

contact with the guerrilla parties was lost : and it was not regained until 6th April. During this period of nearly six weeks, constant patrolling, ambushes and raids were carried out over the whole area, directed by Brigade HQ and co-ordinated with the Baluch Battalion to the North in the Kroh-Betong area, the latter being over the Siam border.

To continue with a brief account of subsequent events, on 28th February a two company column patrolled the road from Lenggong to Grik, but met no opposition. One troop of Armoured Cars (16 Cav) came under my command the same day. Orders were issued for the concentration of the remainder of the Battalion at Lenggong, prior to the move forward to Grik. A company was again left for the night in the Lawin area, but had no success. One of the KMT hostages attempted to escape during the day, but he was captured within thirty yards. Both were then transferred to a more secure place of confinement in Kuala Kangsar.

The two Taiping companies reverted to their own Battalion on 1st March, when the remainder of my Battalion arrived in Lenggong, one company moving permanently to the Lawin-Kenering area, and one company to Grik. An Administrative Base was kept in Kuala Kangsar. All these moves were completed by the evening 2nd March.

On 3rd March one company moved from Lenggong through Grik, and temporarily came under command of the Baluch Battalion. Another company moved up to Grik the same day. One troop 25 pdr Fd Artillery also moved from Ipoh to Grik, coming under my command. The force was building up! The next morning I moved my Bn HQ up to Grik, and was joined there by a Chinese Affairs Officer, a Chinese Colonel and a British Police Officer. One platoon from the company at Lawin was left in Lenggong as rear link with Kuala Kangsar.

Thus by 1300 hrs on 4th March the first phase of the operations was complete, and the Battalion and attached troops were disposed as under :

Grik	Bn HQ, two coys, one tp Fd Arty, one tp Armd Cars, det Fd Coy RIE, det Bde LAD
Area Lawin-Kenering	One company, less one platoon
Lenggong	One platoon
Klian Intan	One company (under comd Baluch)
Kuala Kangsar	Adm Base

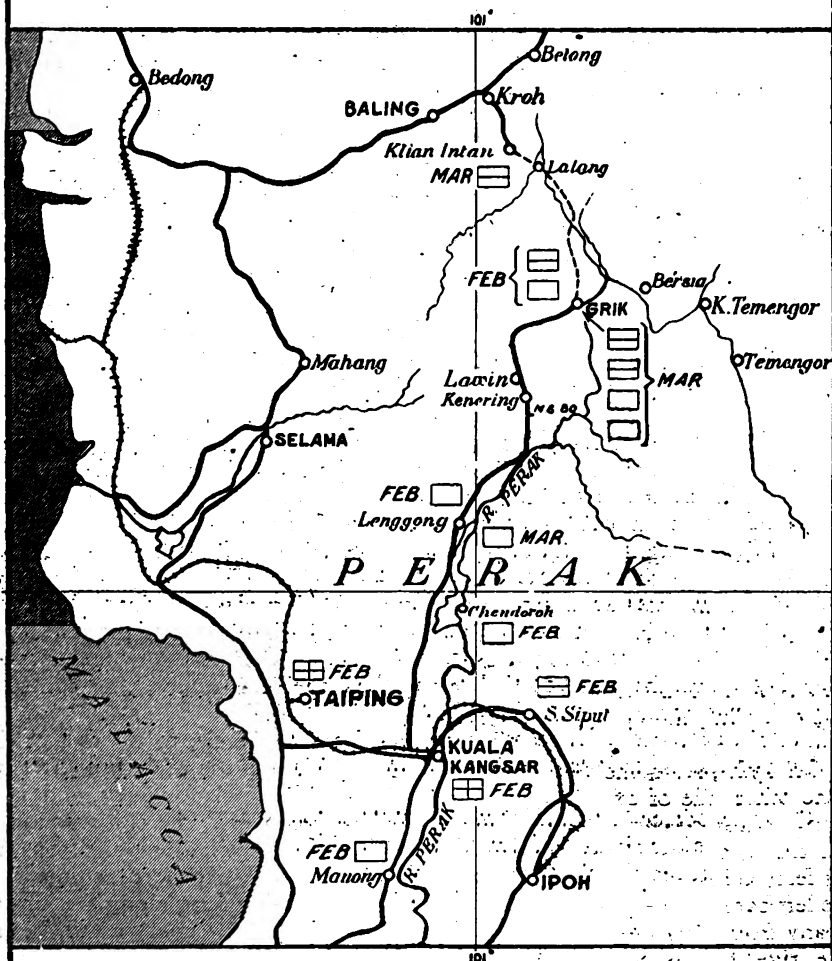
The Battalion was to operate for the next seven weeks over the ground which the Japanese had used in 1941-42 for one of their routes into Malaya from Siam ; and where subsequently, throughout the Japanese occupation, the Chinese guerrilla forces, aided by our Force 136, had successfully defied all attempts by the Japanese to discover their HQ and drive them out of the area. It was ground ideally suited for guerrilla warfare, and almost impossible for regular troops to penetrate with any hope of surprise.

From the time of the arrival of Battalion HQ and the Chinese Affairs Officer with his Chinese Colonel in Grik, the character of the operations changed. Companies still continued to patrol their areas vigorously in the hope of making contact with the guerrillas. But, as already described at some length, negotiations were started through the Chinese Colonel and the local Chinese clubs for the release of the Bde I.O. and settlement of terms by which the guerrillas would come in and hand over their arms and revert to the life of peaceful citizens.

IPOH—GRIK AREA (1946)

SCALE 1:1M

10 5 0 10 20
ENGLISH MILES



LEGEND

RAILWAYS	.....
ROADS	.....
RIVERS	~~~~~
BATTALION	
COMPANY	
TROOP OR PLATOON	

It is not proposed to say any more about these negotiations, which were on a higher level than that of a mere Battalion Commander. But nothing definite happened until, as the result of constant military pressure and a lucky discovery by a Pathan patrol on 6th April, the Bde I.O. was returned. However, that is going too far ahead at the moment.

On the morning following the arrival of Battalion HQ in Grik, the Pathan company was sent to Lalang, about fifteen miles up the road to Kroh. Their task was mainly to assist the Sappers in completing the existing track to Kroh. Together with the Battalion Pioneers they helped to make the road passable for jeeps and 15 cwt. trucks, whilst the Sappers put down two Bailey bridges over rivers. It was hard but interesting work, and the Pioneers especially gained much experience in repairing small bridges, cutting away landslides and general roadmaking. They were assisted by Javanese labour, which had previously worked for the Japanese. This work continued until 16th March, when the company was withdrawn to Kuala Kangsar for a rest and to take over guard duties. Lalang was the furthest North the Battalion went, apart from the Company under command of the Baluchis at Klian Intan.

During the period 3—18 March there were various moves by companies to relieve the monotony of the constant patrolling, and to give the men a rest. At this time the Battalion had normally HQ and one company in Grik, one company to the north in Lalang, one company in the area Lawin-Kenering, with a platoon at Lenggong, and the fourth company in Kuala Kangsar with the Adm Base. The Armoured Cars, troop Field Regiment and one platoon Field Company RIE remained with Battalion HQ in Grik. Thus the Battalion was spread out over a very large area. However, Signal communications worked very well, 22 sets from Brigade HQ being with each detachment; and road communications were good as far as Grik, apart from occasional trees across the road after storms. Incidentally the distance from Brigade HQ in Kuala Kangsar to Battalion HQ in Grik was 68 miles.

All the time that the above patrolling was taking place, various pieces of information were coming in concerning the supposed movements of the KMT gang, and intermittent rumours as to where the Bde I.O. was. Fruitless raids and sweeps, both by day and night, were carried out in the hope of re-establishing contact.

On 19th March the Sikh company moved out to Bersia, to the east of Grik, and the other side of quite a formidable river. This was the prelude to a very exhausting minor operation, namely the re-opening of a track for jeeps, and 15 cwt trucks through Bersia to the north bank of the River Perak, the construction of a flying ferry across the river, and then the clearing of the track along eighteen miles of the left bank of the river to just south of K. Temengor. At the same time the Jat company from Grik cleared the track back from the flying ferry along the left bank of the river to opposite Grik, where another ferry was constructed, joining the whole route to Grik. The Sapper platoon in Grik gave great assistance in this work: enormous trees had to be cut or blown off the track, and more than twenty culverts re-constructed, apart from the erecting of three ferries. It was most interesting, but very hard, work.

At the end of a fortnight the track was through, and the Sikh company moved their camp to just south of K. Temengor near the bend of the river. From there a company patrol, lasting three days and accompanied by the District Officer of Grik and a party of Police, moved to Temengor, to search for a suspected guerrilla HQ. The country was terrific and the only means of transport were elephants. The whole area was found deserted and the company returned exhausted, having to be completely refitted with clothing. There had previously been strong rumours of a KMT camp there and even the possibility of the Bde I.O. being kept there. But the

lengthy period of preliminary track building must have given our intentions away : so that the gang took the hint and moved away—if they had ever been there !

Whilst this operation was going on, the Pathan Company, now in the Lawin area, had been continuing to patrol the area west of the road, as there were still strong suspicions that the original gang had not moved from that area, but had only gone deeper into the jungle and hills : also that the Bde I.O. was still in that area. On 6th April a platoon patrol under a Jemadar was moving about four miles west of the road in the area of mile 80, when they were suddenly fired upon. Altogether about eighty shots were exchanged in a brief battle. Owing to the thickness of the jungle, patrols could not get round the flanks. Contact was unfortunately lost, and eventually in the evening the patrol withdrew to the road.

The next day a further strong patrol searched the area and found huts and signs of recent occupation. The whole area was burnt and a patrol left in observation. Pressure was at once increased in the whole area west of the road and patrols penetrated deeply in several places under very difficult conditions.

After about six days of this intensive patrolling, the guerrillas had had enough. They had been harried continuously for the past seven weeks and had had several sources of supply cut off. This latest pressure was the end. They sent a message that they were willing to exchange the Bde I.O. for the hostages we held.

From now onward it became a political matter. On 14th April the Bde. I.O. arrived in Kuala Kangsar looking rather thin and tired of a meagre rice diet, but otherwise none the worse for his unusual experience of having been held hostage by Chinese bandits for nearly seven weeks.

The following day I proceeded on leave to India. The Battalion was relieved at the end of the month in Grik and moved to Taiping, where we spent a comparatively quiet and uneventful six months until our departure for India at the end of October.

During the period Battalion was engaged on the Grik operations the health of the men remained markedly good. There were a very few cases of heat exhaustion, including one Company Commander : several men had to be treated for leech bites : but there was no malaria or dysentery, and very few men had to be evacuated to the C.C.S. at Kuala Kangsar. As far as possible the companies were given spells of comparative rest in Grik or Kuala Kangsar after any strenuous period in the jungle. Supplies were adequate, but had all to be brought up by road from Kuala Kangsar, fourteen days' reserve being held in Grik. But it was never necessary to resort to air supply. Recovery of vehicles, when required owing to trucks falling through bridges, was effected by two breakdown vehicles stationed with Battalion HQ in Grik. Finally, the morale of the Battalion remained at a high level throughout the whole period despite the fact that, the War being now over, the men might have expected to have had an easier time, instead of having to patrol continuously against opposition whom it was extremely difficult to contact and who never stayed to make a fight of it.

In conclusion, the object of this account has been to try and show the type of task a Battalion in a post-war occupational role might be called upon to do. Whilst there was no risk of casualties as compared with any operation during the war yet the limitations placed on any action by us for political reasons, the very difficult nature of the country and the trying climate all combined to make our task more difficult. Certainly when we landed in Malaya in January 1946, we had no idea that we would be involved in any operation of this type. However, it was an unusual experience and on the whole was enjoyed by everyone taking part. It only remains to say that the KMT gang did eventually come in and agree to terms : they are now disbanded and live as peaceful citizens in our midst. But of these final negotiations I knew nothing, as by then I was enjoying the fleshpots of Kashmir.

A PLEA FOR A CHIEF OF STAFF

"GOPAL"

THE object of this paper is to show that it would be in the interest of the Indian Army to introduce the Chief of Staff system and to have such a post in all formation Headquarters.

The staff system in the Indian Army is copied from the British and, as the Commander-in-Chief said in his talk to Pressmen in October, any expansions that we are making are based on the "bad old days". During the last war, Field Marshal Montgomery and Lord Mountbatten introduced a Chief of Staff in their respective Headquarters and General Guingand tells us in "Operation Victory" that "Monty" always worked on that system. In no other Headquarters, however, was this system introduced and we have not heard of an Army, Corps or Div. HQ having a Chief of Staff.

The British system can be briefly described thus: the Staff at any HQ is divided into a General Staff and an Administrative Staff; and a Commander has to deal with two Staff Officers, one for "G" and one for Adm. matters. The system also lays down that the representative of the General Staff is the senior of the two and gives policy decisions on behalf of the Commander, when the latter is away. This system led to the top "G" officer being normally senior in service, if not in rank, to the top Administrative Officer and also more important. A tradition was thereby established of different "chains" by which an officer could get to the top GS appointments or to the top Adm. appointments; his suitability and natural aptitude for the job being an important factor in the selection. I think I am right in saying that no officer could become a GSO I until he had commanded a Bn, or a BGS until he had commanded a Brigade; while this was not necessarily insisted on for Adm. appointments, since it was possible for an officer of the RIASC to get these appointments. Now this tradition and method of selection is very suitable in peace time, but has to be scrapped in war or an emergency. Further, when sufficient officers of the requisite seniority and experience are available, an *ad hoc* selection and posting can be made; and there are innumerable examples of officers in the Indian Army holding such appointments, during the last war, without having gone through the "chain".

The British Staff system has developed naturally from the national characteristics of the British people, in which the most important is their spirit of compromise. British democracy is based on this and they, as a people, are always prepared to sit in committee and hammer out a solution; a person is prepared to modify his strongly held views in order to reach a settlement with another. Due to this and other reasons, the British have never felt the necessity for a top-man in a HQ staff, except in a pre-war Bde, where there was a Brigade Major who would answer for the Commander in his absence and give decisions on his behalf. For example, in an Army HQ or Command HQ in India, during the war, we had a BGS as head of the "G" Staff and a M.G.A. as head of the Adm. Staff, but it was always understood that the BGS gave policy decisions, on behalf of the Commander, to the HQ Staff and Commanders of all Lower Formations.

So we now see that the British Staff system is based on the following :—

- (a) The Commander has to deal with separate staff officers for "G" and Adm. matters;

- (b) The "G" Staff is senior to the Adm. Staff and the senior "G" Staff Officer gives decisions on behalf of the Commander, during the latter's absence ;
- (c) The "chain" for an officer to get to the top "G" appointments is different from that for an officer to get to the top Adm. appointments ;
- (d) It is necessary for officers to have a spirit of compromise ;
- (e) Experienced and qualified officers are required to take on the top "G" and Adm. appointments.

Let us now see whether and how far these basic requirements are available in our present Army and its officers. My remarks should be taken in the spirit they are made in and have no bearing on any individuals holding appointments at present.

A Commander must go about, visit his troops and installations, of whatever nature, and see for himself how things are going. In war he will have a Tac HQ well forward near his troops. This means that a Commander is very often absent from his HQ. He should, therefore, have one person who can give decisions and take action on his behalf during his absence ; which also means that he need have only one officer in his complete confidence. What is more important, he should be able, when away from his HQ, to get information on any point from one person and on his return should have to meet only one person to be put into the "picture". A Chief of Staff will be able to undertake these tasks and will enable our Commanders to be absent more often from their HQ. The present system is a two-man system and forces the Commander to deal with separate officers for "G" and Adm. matters.

The task of the Staff is to relieve the Commander of having to deal with details. Under the present system the Commander would, however, have to be available, during the progress of planning and the working out of details, to give decisions on many points which will naturally arise, as he is the only co-ordinating person in the Headquarters, having two staff officers to deal with. This means that the Commander is tied down much more to his HQ, which he would not be if he had a Chief of Staff who could relieve him of many of the duties shown above. By having a Chief of Staff, the Commander would have to deal with only one Staff Officer and could give a decision, without coming back to Headquarters, as he would have all points of view put up to him by one person. This would also assure both the "G" and Adm. Staff Officers, that their views had been fully presented to the Commander, which would never be the case if the senior "G" officer was the one to contact the Commander on behalf of all the staff at HQ. A Chief of Staff, being the senior staff officer, enjoying the full confidence of his Commander, would also be in a much better position to give a decision on matters of detail to both the "G" and Adm. Staffs, without having to consult the Commander.

This question of a Commander having to deal with two Staff Officers, and having to give decisions on so many comparatively minor points of detail, is causing most of our Commanders to stay far more in their HQ and devote much more time to such matters than they normally should. Of course, a reason that can be put forward is that our officers, holding Grade 2 and Grade 1 appointments, are comparatively junior in service and lack experience, and therefore the Commander has to carry a bigger burden. My answer to this is that we must try to make the best of the limited number of officers with the requisite seniority and experience that we have; and therefore, to run all our Headquarters efficiently, to guide and teach the junior officers who have to be posted to staff appointments, and finally to relieve Commanders of the large amount of details they have to deal with, these few officers should be judiciously distributed in each Headquarters and be appointed as Chiefs of Staff. This is a task which could quite easily be accomplished by the Military Secretary, with the help of No. 2 Selection Board. The ranks of these Chiefs of Staff and the number

of the "G" and Adm. Staff Officers to be posted in each Headquarters is a matter which can be worked out, taking into consideration the financial implications. It must, however, be made quite clear that the Chief of Staff is *not* part of the "G" or the Adm. Staff. A statement which I heard a Senior Officer make, "the Chief of Staff will be more a 'G' man, therefore we have a GSO I on the 'G' side and a Col 'Q' on the Adm. side" is a fallacy and undermines the very basis on which the Chief of Staff system is intended to be built.

The usual answer one gets from officers, when one asks them what sort of staff appointment they would like, is that they want a "G" appointment. The reason given is that it is the senior appointment and therefore desirable. The question of their own aptitude in staff matters, the fact that administration is much more important—F.M. Wavell has said that war consists of 80 per cent administration and 20 per cent tactics—and that no one can be a good Commander unless he is really good at and experienced in administration, does not weigh with them. One of the other reasons for this attitude is the "chain" established for achieving the senior staff appointments and commands. By choosing suitable Chiefs of Staff, who with their experience and knowledge will be able to guide young staff officers, we can appoint officers in either "G" or Adm. Staff appointments and be certain that there will be no feeling in their minds that they have gone to a junior or senior side of the staff. Also, depending on the tasks facing the Headquarters, we can choose our Chiefs of Staff for their previous experience in "G" or Adm. work, a factor which I feel is not given due weight in appointments being made at present. In short, the creation of a Chief of Staff is going to break the two traditions, which I feel are wrong; first, that of the "G" staff being senior to the Adm. staff and second, that there is a separate channel for achieving the higher "G" and Adm. Staff appointments and even higher commands. Another aspect is that a Chief of Staff appointment will enable us to utilise the services of Artillery, Engineer, Signal and RIASC officers with staff experience, who are at present denied the opportunity of holding senior "G" and Adm. Staff appointments, except in exceptional circumstances, as they are regarded as technical officers; though quite a number of them try very hard to get out of the closed walls of their own Corps staff jobs.

One of the weaknesses of our present Army is in my view, its Administration. The reason is not that our Senior Commanders do not realise its importance, but that there is a paucity of experienced staff officers; for a number of those appointed at present, due to their lack of knowledge and experience, fail to see all the numerous details which are the basis of good administration. Also, it has been brought very strikingly to our notice, during the last war that the "G" Staff, when planning, fail to bring in the Adm. Staff into the picture at an early stage. This has led to plans for an operation being finally prepared and then being presented to the Adm. Staff, who have to meet the requirements of that plan by improvisation and meeting each situation as it arises, instead of planning ahead themselves in conjunction with the "G" planning. The gravity of such a method of planning in war cannot be over-emphasized. To make sure that Administration is considered side by side with "G" during the planning stage, it would be best to have someone in the staff, who could do the co-ordination of the two aspects of operational planning and make certain that they both are progressing equally side by side. The person who can do this is the Chief of Staff.

Every student of Indian History knows that one of our national traits is the lack of an adequate spirit of compromise. Holding to one's principles, even when faced with strong opposition, is an admirable trait, but often it is very necessary to compromise, if it is intended to get things done quickly and efficiently and to run a democratic system of Government. I am not trying to suggest that the Army should be run on a democratic system, but surely "this is an order and there will be no argument" is more within the sphere of the Commander. It is very difficult to have a

harmonious staff, if two officers of the same rank hold staff appointments and one of them is considered by tradition to be the senior and has to give orders, when often he may even be junior in service. There may arise a case, say in a Div. HQ, of a GSO I being junior to the AA & QMG. When the Commander is away, the "AQ" may not be prepared to accept the decision of the GSO I on a particular point where their views conflict. There is no law which allows the GSO I to order the "AQ" to carry out his decision; this disagreement has to await the arrival of the Commander. This state of affairs is not conducive to efficiency and can be dangerous in war. History shows that kingdoms, businesses and other enterprises and even families, work well, smoothly and flourish, when there is a man on top who is the "boss", whether put there by heredity or by being selected or elected. Once this "boss" is replaced by a weak man, who has neither the strength nor the ability to maintain his position nor the power to get his orders carried out, the thing falls apart, owing to inefficiency and internal squabbles. I can hear the reader say that I am now talking of the work of the Commander, because he is the "boss" and he must ensure efficiency and co-operation in his staff. I would disagree, because we are asking the Commander to be tied down to his HQ to co-ordinate the work of his staff and to give decisions on differences of opinion between his staff officers and, as a last resort, to change one of them and get someone else who will co-operate better. This is not the answer to the problem. The answer is to put someone in the staff, who will undertake the tasks of co-ordination, of giving decisions when necessary and of ensuring the efficient working of the whole HQ Staff, thus allowing the Commander more leisure to think, plan and go round his command. As the name suggests, what we want is a Chief of Staff. I feel that the psychological factor, taking into consideration our national traits, is not being given enough attention, and surely an organization which has the seeds of friction should be duly modified as early as possible.

An argument can be put forward that our officers must acquire all those qualities which have enabled the British to run their staff system so efficiently. My answer is that the British staff system works well, because the British have got the requisite number of trained staff officers, with the necessary seniority and experience, which enables them to place their officers in the right places. We, I believe, are short of officers, therefore, we should utilise the few, who have the necessary experience and seniority, by appointing them as Chiefs of Staff in each HQ. These Chiefs of Staff would not only be able to relieve the Commanders of many of the tasks that they are forced to do now, but would also be able to supervise and educate the junior staff officers. From the point of view of inter-service co-operation, the appointment of a Chief of Staff will help very greatly. The Naval and Air Force HQs, at different levels, would have to deal with only one staff officer of the Army formation with whom they would be co-operating, for all matters of operations and administration.

I am certain that the appointment of Chiefs of Staff will not only increase the efficiency of our Army but, more important, it will ensure that all those staff details, which give "headaches" to our Commanders and to Army Headquarters, are dealt with expeditiously and efficiently. Further, this is not the time for our younger staff officers to learn by mistakes, as such a policy can only be adopted during times of peace, and the present time is not peace in the accepted sense of the word. The present time is a crucial period, through which the nation and the Army is passing, and therefore, to deal with problems on such a basis is not only wrong but dangerous. It is necessary to give up many ideas, especially those of promotion by seniority, and to put officers in jobs where they are best suited and of the greatest benefit to the Army. Any anomalies or "passings over" that arise should be corrected when things settle down and a real peace returns.

THE ORIGIN AND GROWTH OF THE ROYAL INDIAN AIR FORCE

WING COMMANDER C. SATYANARAYANA, R. I. A. F.

THE Indian Sandhurst Committee, otherwise known as the Skeen Committee, was appointed in June 1925 to enquire into and report on the possibility of Indianising the Services, including the Air arm. The chairman was Lieut.-General Sir Andrew Skeen, K.C.B., K.C.I.E., C.M.G., Chief of the General Staff, and the members included, amongst others, prominent leaders of public opinion in India.

The Committee recognized the efficient services of a number of Indians who were actually employed as officers in the Royal Flying Corps during World War I. They also noted that one of the Indians was awarded the Distinguished Flying Cross and another was killed in action. One of their main recommendations, therefore, was that Indians should be made eligible for employment as King's Commissioned Officers in the Air arm of the Army in India and that for this purpose they should be admitted to the Royal Air Force College at Cranwell, provided they qualified by the same tests as British boys. Two vacancies were, therefore, allotted at Cranwell from 1928 onwards.

By 1932, ten cadets were under training at Cranwell, and twenty-two Indian apprentices who had completed five years training in railway workshops were selected for training in the R.A.F. workshops in India. It was the intention that till the time when Indian Officers came out of Cranwell, the Indian apprentices would be ready to form the nucleus of the Indian Air Force. Selected Officers and N.C.Os. of the R.A.F. supervised and trained the Indian personnel of the first I.A.F. Unit.

The Indian Air Force Act was passed into law during the year 1932.

One Flight of the first I.A.F. Squadron was formed at Karachi on 1st April, 1933, with five Indian officers gazetted to Commissions for flying duties, and one officer for the Stores Branch of the new service. The necessary R.A.F. personnel were attached to this Unit as instructors. The role of the Flight was decided to be Army co-operation.

Up to 1939, the history of the R.I.A.F. was the history of the growth of No. 1 Squadron.

In the year 1939 plans were drawn for the rapid expansion of the Indian Air Force to a ten Squadron Air Force. With the sudden outbreak of war the normal methods of recruitment had to be abandoned and posthaste methods had to be employed towards rapid recruitment. The resources of the Flying Clubs were tapped and by 1940 Coastal Defence Flights at Bombay, Calcutta, Madras, Cochin and Karachi manned by Volunteer Reserve Officers were organized.

Training Units were established at Risalpur, Lahore, Ambala and later Jodhpur and Secunderabad. Peshawar and Karachi offered operational training facilities for the cadets passing out of the Advanced Flying School, Ambala.

The first major supply of officers came from Ambala in May 1941 and this marked the real beginning of the expansion of the Indian Air Force with the formation of No. 2 Squadron at Peshawar. No. 1 Squadron was then located at Peshawar for Frontier duties.

No. 1 I.A.F. Squadron was sent off on operations to Burma in January, 1942. This Squadron did marvellous work in the protection of the troops engaged in defending Burma during the early phases of the Japanese advance in that theatre. Lord Wavell, then Commander-in-Chief, Far Eastern theatre, specially congratulated the unit on its marvellous support during the withdrawal of the Indian Army across the River Salween. The operational tour of this Squadron was short-lived in spite of the eagerness of the Squadron personnel, because the vicissitudes of war had so determined that the Indian Army should withdraw from the Burma region during 1942.

During the rest of the period in 1942 and 1943 systematic expansion of the Indian Air Force, with a view to complete the ten Squadron programme, continued. By 1944, the Indian Air Force had two Dive Bomber Squadrons and five Fighter-Recce., Ground-Attack Squadrons; and these Squadrons were under constant training for the coming onslaught. In 1944 and 1945 these Squadrons took part in the Imphal and Arakan operations and later helped the Army recapture Burma. By then two more Fighter-Recce Squadrons had formed, and they also joined the rest of the Indian Air Force Squadrons in the Burma Battle.

On 12th March, 1945, His Majesty the King approved the designation of 'Royal' as a prefix to the Indian Air Force in recognition of the services rendered by this young service during World War II.

1946 saw the formation of the first Royal Indian Air Force Transport Squadron.

During the whole period the following honours and awards were made to personnel of the Royal Indian Air Force:

D.S.O.	1	Bar to D.F.C.	1	B.E.M.	4
D.F.C.	21	M.B.E.	7	Mentions-in-Despatches	46
O.B.E.	2	A.F.C.	2		

Even though the R.I.A.F. was originally trained for Army co-operation work and was termed "the eyes of the Army", the service had on many occasions performed diverse duties, in addition to its fundamental role, of which it may well be proud. The manner in which the R.I.A.F. conducted itself during these few years has won admiration from all quarters and will be an inspiration for the future.

On 15th August, 1947, the R.I.A.F. was divided into two services to serve the two new dominions of India and Pakistan. The Indian Union received as her share seven Fighter Squadrons and one Transport Squadron by this division. From then onwards the service had a new outlook; buoyant and hopeful for the future.

A NEW CONCEPTION OF THE DEFENCE OF INDIA

LIEUT.-COLONEL RAJENDRA SINGH

"War is the last instrument which a state holds in its hands, which it employs to further its object. Once it has been used the future depends on the result of the war. It is simply obvious that all other instruments of peace must recede into the background when once war is declared and once it is declared the nation is committed to an act for which it was being prepared by the state policy".

"On War—Clausewitz"

FOR long, war has been considered as a contest between the armed forces of two states with the object of subduing or destroying the will power of the other. The armed forces were organised and prepared in peace to attain that object in war. If that still remains the object and it is to be attained by contest in the field, we must prepare the forces for that particular task. If the object has changed, in view of new developments, the armed forces must be organised for their new role.

The shape of war changes with every new social, political and economic development. In the olden days each small state had its own king and a handful of mercenary soldiers. Once that body was defeated the state was enslaved. With the development of political and national consciousness in the masses the responsibility to conduct war became a national affair and conscripted armies were raised for the defence of the mother-land.

Those forces were the instruments of the policy of the state and their object was to protect the will power of the state and at the same time to destroy that of the enemy; the issue was decided after a battle between the two forces. Their primary function was to gain victory in the field and then to occupy the enemy territory. They were organised and trained for these two specific purposes.

Till the tail-end of Great War I the process by which this object was to be attained remained more or less the same—victory in the field, occupation of territory and subjugation of the will power of the enemy.

NEW DIMENSION IN WAR

So far, we had been fighting a one dimensional war, where the armed forces, the capital and the territory were on the same plane. Due to this confinement it was difficult to change the process.

The aeroplane produced another dimension in war. It could get over the horizontal belt of ground defences and directly attack the vulnerable targets inside the state.

In Great War I the range of aeroplanes was limited and the weight they could carry was small. They could therefore produce only a very limited effect on a large mass. The newborn air force was used as a supplement to the ground forces with the same age-old object—the destruction of the outside kernel to reach the heart.

The belief persisted throughout the last war and still persists in the minds of many that the infantryman is the predominant unit with which to occupy the country, destroy all points of resistance before the state is forced to surrender. This relegates air power to a subordinate position, an auxiliary to the ground forces. This line of thinking is due to force of habit.

Some believe that air power by itself can destroy the enemy's will power. How far that belief is correct, must be weighed in the light of the experience of the last war, the future possibilities and application of the weapons of today. "Any war commencing within the next few years would of necessity initially be fought with weapons now on hand or in production—General Eisenhower". One thing is obvious, that air power can disturb and destroy the stability of the state without touching the ground forces.

THE STABILITY OF THE STATE

The stability of the state is based on its physical features and social and economic systems which have their roots in the space, resources, man-power, scientific progress, industrial development, morale and many other attributes.

In a future War the enemy will attempt to destroy some or all of these sources of energy and once the fountain-heads are destroyed, the existing power will disappear in course of time. If that is the object of the enemy our forces must be organised so as to make its attainment impossible.

Our strategy requires re-orientation in the light of these new conceptions. The organisation, control and development of armed forces must be planned to suit the new purpose. "We must modify our solutions according to the changes in the conditions of the problem."

The first essential is therefore to find out the latent and potent sources of energy. Our Intelligence must be very good and the research in the economic, industrial and geographical potentials of all countries must be carried out unceasingly. In the time of war this information is required by the armed forces and therefore it is essential that in our new set-up we have a research section where a combined military and scientific staff should carry out these investigations. The practical realisation of the Atomic Bomb dream is an example of perfect staff work where scientists and military leaders combined in the investigation, execution and completion of the project. Without this co-operative effort for six long years, under the greatest strain, such a gigantic adventure may never have succeeded.

The use of any new weapon causes surprise, which is the most demoralising weapon of war. To create surprise we must conceal our intentions and preparations, while to guard against it we must always endeavour to glean every information about the enemy and prepare a mosaic of his intentions.

It is the duty of the Intelligence Services with well-dug tentacles in the enemy territory, combined with an investigation centre at home, to keep thinking ahead about the possible enemy intentions and moves. The Intelligence Services should be staffed with well-trained military officers who can deduce correct lessons. Young officers must be sent to all foreign countries to tour, see and learn about the conditions of foreign countries—our possible aggressors.

Our security must ensure that the enemy is not able to find out the exact location of the weak and strong points of our stability. Security in peace is as important as in War. The Germans were not aware about the industrial expansion of Russia in the Urals and Siberia. This expansion under the Five Year Plans was carried out with great secrecy.

Some information must be common knowledge to all countries. India has great physical stability, enormous size, man-power and resources. By destroying or disturbing any of the nerve centres the body may be easily paralysed.

It is the duty of the state to have firm political, economic and social institutions which can stand the impact of war. Without this stability the armed forces will not be able to carry out their functions. Here, I am not going to deal with the ways and means to create this stability but must emphasise that without such security, no army however powerful can be successful in the end, and it is the end that counts.

Japan was a first class power with powerful, organised, well trained and tried armed forces. The Japanese militarists knew of the industrial weakness of their country. To paralyse the American Navy they struck first at Pearl Harbour, captured the whole of South East Asia, but failed in the end due to the initial production handicap which Japan wanted to make up by a good start but did not. Japan was industrially unstable as compared with the production capacity of the United Nations.

Our potential enemy must be aware of some of our weaknesses just as Japan was aware of the weakness of the Colonial Empires of South East Asia. Japanese invasion was followed by a mass uprising from within. No government can last very long when placed between such twin fires. India must be made politically stable.

Stability can be destroyed or disturbed by external or internal forces. It is therefore essential to remove as many points of friction within the state as possible. Political stability can be attained by having a popular Government whose economic stability is based on self-sufficiency, adequate provisioning and supply of means of daily life to the state and its people.

To maintain the stability of the forces it is essential to have a stable Government and the means by which the policy of that Government is passed on to its instruments. This requires the preparation in peace of the people and the subordinate units of the state to assume the authority if the centre is destroyed. The bombing of Delhi should not paralyse our political machine.

The armed forces cannot carry on fighting unless the Government machinery is working properly and keeps on supplying the needs and requirements of the armed forces. This requires a secure and sound base. Japanese forces could not carry on very long, even if they wanted to, after their Government had surrendered. Now the stability of the armed forces depends on the stability of the state and not the other way round. We must therefore ensure this stability.

The enemy can disturb it by striking at our strategic targets. These political, economic and industrial centres have now taken the place of medieval knights who were the centres of past battles. We have now to protect these big and soft targets within a new type of armour.

The Atomic Bomb, the most effective means of destruction at present, can be carried and dropped by an aeroplane and in future may be projected like the V2 bomb. In order to protect the "CENTRES" we must stop the missiles from hitting the targets. They may be intercepted on the way or the very source of their origin may be destroyed. In time to come science may find out means to detect the flight of the Atomic Bomb and destroy it before it reaches the target but till that becomes a reality we must find other means to safeguard our security. Here I will only discuss the part that the armed forces will have to play in the maintenance of that security.

THE ROLE OF THE ARMED FORCES

The objects of the armed forces can be classified as :—

- (a) Defence of the focal points,
- (b) Regional defence,
- (c) Security of the base, and
- (d) Destruction of the enemy.

The first three are purely defensive roles, the fourth is in the form of retaliation—offensive defence. All these aspects have their individual importance and their control and co-ordination in peace and war should be so adjusted that they form a harmonious pattern in the whole design of war. Let us therefore analyse the individual requirements in each case.

Defence of Focal Points

The defence of the focal points means defence of a particular "centre" where it may be of political, economic or other importance. It is better to stop the enemy from approaching the centre, and if the enemy succeeds in penetrating the defence system, to localise the damage. The best way to defend a centre is to make it as small as possible. This requires decentralisation to a great degree but with complex systems of command, supply and distribution this can only be carried to a certain limit without affecting efficiency.

These strategic centres will be like the forts of medieval wars. They are static and are the backbone of the defensive system and therefore must be strongly fortified and defended to the last. The second best form of defence of a centre is to stop the enemy from crossing a circumference round it. The radius depends on many factors—the vulnerability of the target, effect of destruction, the line of approach and the time factor.

The greater the radius the greater would be the chances of successful defence. We can call this also "Defence in Depth". Where is the limit? In the last war England used to consider the Rhine as its line of defence, today America wants to have bases hundreds of miles away from the homeland. There is a big difference in what we should have and what we can. We should base our plans on the basis of what we have.

If India as a whole is considered a big centre, the protection radius must spread well out in other countries. Thus the security of Iraq, Persia, Burma and Ceylon may become an integral part of the defence of this country. This is strategic defence as compared to the material defence which is mainly local.

If we consider that the defence of Iraq is essential for the safety of India we must have means to protect that country. Then we become indirectly interested in the defence of other nations. It is a never ending circle because Iraq in turn may consider Turkey within the radius of her defensive system. This brings us to collective security. The greater the number of countries united together in a common cause the greater would be the chances of successful defence.

Collective security is only possible if the component units are self-sufficient and can protect themselves till succour comes from the member states. There is bound to be a time lag and moreover there is always the possibility of some member falling out.

For the security of India it is not only necessary to have friendly states around us but also to see that the country itself is prepared for defence. The latter is the more important.

Due to the range of the aeroplane every country can be attacked directly. Its destruction can be carried out by air forces. It is therefore essential to have a cylindrical form of defence. Due to the speed and range of modern aircraft and the radius of destruction of the Atom Bomb, the circumference and the height of the cylinder must of necessity be great. As all the targets are within the range of modern aircraft and as we cannot determine the intention of the enemy in advance it will be essential to take precautionary measures in peace.

We cannot be strong everywhere, therefore the correct distribution of forces is very important. We should first select those centres which are of vital importance and which must be converted into forts. If they are too many it will mean dispersion of forces and weaker defence as compared to the few where forces can be concentrated. Concentration has handicaps of size and vulnerability, therefore we must find out the correct balance between concentration and dispersion.

For quick and effective interception of enemy bombers it will be necessary to have timely information—the earlier the better. The earliest information can be supplied by our Intelligence Services in the enemy country. We should try to anticipate the intentions of the enemy. If we cannot get information at the start we must try to catch the enemy before he crosses the radius or reaches the target. The earlier the warning the lesser would be the chances of surprise.

The approaching enemy aircraft can be detected by Radar. We must have a network of this device spread as far out as possible. These collecting centres of information should be linked with the Headquarters and units which are going to take action. Action must be prompt.

The offensive action against the enemy intruders must be carried out by the fighter aircraft. These are to be located at such strategic points along the radius and round the centre that they can create the greatest destruction on the incoming and outgoing enemy bombers. I am not going to discuss here about the type of aircraft considered most suitable for this purpose, because the design and type of aircraft is always changing, but we must lay down the principle that air force units earmarked for the defence of a particular centre should not be deviated for other purposes. We must always have the "Guard" in position and take the offensive with the other.

Each strategic centre will be under a "Fortress Commander" who will be responsible for its defence. The static defence will be carried out by anti-aircraft units and by measures to localise the damage, air raid precaution and dispersion; and maintenance of the local services like water supply and health services.

At the centre they can be controlled by an Inspector of Fortresses who will be responsible for the preparedness, improvement and control of the various centres.

Regional Defence

After the destruction of a vital centre, or simultaneously, the enemy may attack subsidiary targets and attempt to occupy strategic regions. The regional defence must therefore be so organised that the enemy fails in both the attempts.

The pattern of attack on the region will be the same as I have explained above. These air attacks will be followed by landing forces. It is therefore essential to join up the various centres into a "chain". If the links are strong and properly inter-linked the defence can be effectively organised on a "regional" basis where the "region" becomes a centre.

Once again fighter aircraft will have to be located at strategic places—for the protection of the whole region. It will be essential to centralise the control of all

reserves in the Region in the hands of the "Regional Commander". These regions will become combat areas and must therefore have offensive and defensive troops.

The defence of the region must be based on the Area system where the Area corresponds to the civil districts. This organisation in peace will be the nucleus of the military Command for local defence when the enemy breaks through the defensive screen and begins to land troops. In the initial stages the invading troops will be landed in small packets over a wide area. To defeat this object the local defence should be so organised that everyone is prepared to fight for his hearth and home.

The easiest way to achieve this is to redistribute our training establishments on the District basis. Depending on the size of the forces, every District must have a skeleton staff and unit which can expand in War. These units must be locally recruited, trained and organised. Some form of conscription will have to be introduced, at least in the threatened regions. At present the recruits for different arms are recruited at various places, sent somewhere else for training and garrisoned at a different place. It is not a bad system where the war has to be fought on the land of another country but for defensive war it is not only costly but very slow. At present the training establishments of many units are centralised near important towns; this will have to be changed. They should be spread out. If the units have to be locally recruited their composition must of necessity correspond to the population of the District. The present class composition will have to go. This decentralisation will cause many administrative difficulties but with present means of communication this should be quite possible. It is not wise now to have all eggs in one basket.

If a Province is to be a Region, each District of that Province must have a District Unit. It may be an infantry, artillery or supply unit depending on the tactical role of the District in the regional defence of the province. Each District will be commanded by an "Area Commander" in peace, who will be responsible for local defence in war. The offensive role of the reserve to be created and located at tactical places will be in the hands of the Regional Commanders.

I have mentioned earlier that a "region" implies a combat area. We can determine the Regions which should be kept ready in peace for war according to our external relations. In the present circumstances three land regions will have to be created in India. They will consist of the Western, the Eastern and the Central regions. It would be a continuous mass corresponding to the Indo-Gangetic plain. I am not going into the tactical necessity and detailed grouping of these regions but for the proper defence of India this region will have to be "militarised", if that is the correct term.

If a region is involved in actual combat it is difficult to carry out local production and armaments for the forces. They must be prepared and supplied by a strong base. It should be so located that it can carry on production, collection, training and supply without dislocation and enemy interference. It will have to be located away from the Regional Areas but not too far. It must be connected with Combat Zones with efficient and alternative lines of communication and means of transport.

Security of the Base.

In India we have a natural base in the Deccan Peninsula. It is triangular, with its base joining the two industrial regions of Bombay and Bihar and its apex towards Cape Comorin. It has many physical and natural advantages, is fairly secure, being protected by the Rajputana Desert and the Vindhya Ranges in the North and the sea on the other two sides.

The sea is a natural barrier if we can keep it clear of the enemy surface craft. At present India has no direct sea threat but we cannot easily forget the past possibility

of the Japanese threat of invasion by sea. Can we keep the enemy fleet out of the Indian Ocean? The answer is yes, if we control the entrances.

No enemy landing on our coast is possible unless he can establish a fair degree of air superiority. In this, the land-based aircraft has many advantages over the carrier-borne planes. But this superiority can only be maintained if the balance of numerical strength between the land and sea planes is not too great.

We will talk of the offensive role of the Navy later but for the purposes of defence we must have ground defences ready to meet any enemy landing by sea. This can best be done by a system of coastal defence on the regional basis. The base should therefore be slightly away from the threatened Coastal Area. Luckily the Deccan base is protected by the two natural barriers of the Eastern and Western Ghats.

The location and distribution of troops, magazines, stores and depots in this base must be kept highly secret. Once their location is known they become vulnerable targets.

The organisation of the base in peace is as essential as the preparedness of the Regions for combat. Though the defence of the Regions surrounding the base may automatically mean the protection of the base, we cannot take that security for granted and the base must be so organised that it can defend itself in case of attack. Definite forces must be earmarked for the job. The Base Commander will be responsible for the protection, preparation and functions of the base in peace and war.

Destruction of the Enemy

Having ensured the security of the base we must turn to the offensive, because without offensive action the enemy will not be completely defeated. General Eisenhower while discussing the future defence of America said, "Since such missiles (Atom Bomb, etc.) can be discharged from small well concealed and widely distanced installations, it is probable that their effectiveness will continue practically unimpaired until the ground forces have worked their way forward and seized and destroyed stock-piles, productive capacity and the launching sites".

In order to carry out this assault on the enemy country we have to organise our forces to destroy the focal centres of the enemy's stability, assault certain strategic regions and then occupy the country with ground troops.

The first object can be achieved by long range strategic bombing. This must be persistent so as not to give the enemy a breathing space to reorganise what has been destroyed. Strategic bombing must be carried out according to the policy laid down by the Higher Command. It was the strategic bombing of the German War potential which paved the way for landings on Normandy. The region to be assaulted and neutralised depends on many strategic and tactical considerations. What will cause the enemy to capitulate quickly? Okinawa was selected as the jumping off ground for the Allied forces for the final assault on the Japanese mainland. America could not assault Okinawa without the superiority of its Navy. We must have and prepare the means to achieve the object.

The second and third phases of the attack should be simultaneous, otherwise the enemy reserves may offset neutralisation before the landing of our ground forces.

India is land bound on the North and the two tactical outlets open for the deployment of her ground forces are in the West and the East. The task forces for these land attacks must be so based that they can be easily deployed without any loss of time.

As both the Eastern and Western regions are also combat regions the security of these regions will be further enhanced by the presence of these forces there. But we must ensure that the task forces are not involved in local defence.

India has a vast coast-line to defend and if it has a strong Navy it can also be used in the offensive role of landing troops on the enemy coast. While the ground forces are limited to certain routes and areas the Navy by its mobility can achieve surprise by landing at various soft spots.

The landing on an enemy coast even when it is not defended is a hazardous operation and can only succeed if all the three services are thoroughly integrated and co-ordinated. Not only in combined operations but in almost every operation in future the three forces will have to work together in some form of combination.

INTEGRATION OF THE FORCES

It is essential that the three forces are thoroughly integrated and the ideal will be to combine them into one single force. This can best be done if the services lose their individual entity and become part of the whole. We must abolish the unnecessary differences between the three services and organise them on a common standard. Standardisation may be hard to achieve in every case but it is quite easy in many aspects.

All the three services must have the same uniform. For the purpose of distinction different coloured shoulder epaulettes, blue for the Navy, red for the Army, grey for the Air Force can be worn. This will not only produce a common feeling amongst the three services but also mean a tremendous saving in production and supply.

The members of the three services must have common ranks and they must come under common rules and regulations. The best way to achieve standardisation is to have as few details as possible. Every difference creates complication. Simplicity should be the keynote of our organisation.

There is no doubt that every branch now requires some specialisation, but in a future war it would be as important to be a jack of all trades as master of one. This common background can best be produced by integration at the very start.

The officers for all the three arms must be trained at a common institution and grow up in the traditions of the three services. This common background must be kept up by inter-transfer and interchange of officers at all stages and ranks. Integration of the staff at the top will not be effective unless it is carried to its logical conclusion, the integration of the forces.

If we accept the first principle of standard pay code, rules and regulations; the inter-transfer of men from one service to the other will be simplified. There are bound to be difficulties, there are troubles at the start of every new enterprise but they should be surmounted.

In future wars, the Air Force will play a very dominant part. It is essential that members of all services fully realise this. The life of the pilot in the Air Force is limited but he does not lose his fighting capabilities. "Grounded" officers and men should be transferred to other arms and their places filled by selection from the other services. This will maintain a constant flow and continuity.

CO-ORDINATION OF STAFF

The whole machinery of war is becoming complicated with large staffs and the only way to keep it in gear is to have a decentralised system of Command.

"The extreme centralisation of the system of Command not only tends to paralyse initiative but fills the time of the departmental chiefs with a multitude of routine details and matters of minor importance, thus allowing them little opportunity of devoting adequate thought to big issues of policy—Liddel Hart". I have already explained the role which each centre, region or task force will have to play independently, but for the proper execution of the war as a whole, it is necessary that all these roles dovetail into a common policy. This should be controlled by a Supreme Command.

This Command will not only be responsible for the co-ordination of the various tasks of the armed forces but also for implementing the overall policy of the Government and formulation of Higher strategy. Thus there should be three important sections dealing with the three main functions; the War Council dealing with the whole war policy and national effort; a Co-ordination Committee responsible for the conduct of Higher strategy, planning and development; the Military High Command dealing with all military matters. All the committees will be presided over or represented by the Supreme Commander.

If the functions of the Head of the State and the Supreme Commander can be combined in one and the same person, the change over from peace to war and the conduct of war itself becomes simple. This centralisation of power is only possible in dictatorial countries. It is not possible in India or any other democratic state. But the latter should not forget the fact that aggressors will lose no time and will ruthlessly inflict devastating blows by using all the scientific resources at their disposal, while others debate the issue in Parliament or Senate. The preparedness and time factor is more important for the defending state than the aggressor, who will only strike when he is ready.

In India it is quite obvious that the centralisation of all powers in the Supreme Commander will not be possible; therefore a machinery should be created so that all the other instruments of state policy are combined to attain victory. This authority should be exercised by the Supreme Council which will be presided over by the Prime Minister and will consist of the Ministers who are concerned with the conduct of war.

The Co-ordination Committee should be presided over by the Defence Minister and should consist of those Service Heads who will be responsible for co-ordination and combination of our strategy with other countries. India will not be fighting an isolated war. She will need many things from outside and their procurement will be a matter of higher policy. This Committee will deal with the planning and preparation for the future and will also be responsible for the economic, psychological and political warfare. It will have three service members, the Supremo, the Chief of the General Staff and the Director of Information and Research.

ORGANISATION OF THE STAFF

The military High Command will consist of the Supremo as Head of all the armed forces; the Chief of the General Staff to formulate policy and planning; the Commander-in-Chief responsible for the command and conduct of all the Task forces; the Director of Organisation who will be responsible for the organisation and training of the services, and under whom will be the Inspectors General of the Navy, Army and Air Force and the technical services. The other members of the High Command will be the Adjutant General in charge of discipline, morale and welfare of the troops, and the Chief Administrative Officer, under whom would be the supply, ordnance and administrative chiefs.

It is not necessary here to work out the detailed organisation of the staff and their duties. What I want to ensure is that each Head of the Department is as independent

as possible and tied to the centre only for matters of common policy affecting other branches and Higher policy. The High Command should be organised like a fan and not like a skyscraper where you cannot see the sun till you get to the top.

Organisation of the High Command and distribution of responsibilities will not break the "red-tape" system. Officers must be trained in staff work. A corps of staff officers should be created from selected officers of all branches. Staff work requires special qualifications and it takes a long time to train a good staff officer.

The reorganisation and simplification of office routine is also essential. There must be one system of filing, correspondence and records from the top to the bottom. If we want to make our foundations secure we must make the clerks efficient and good. We must remember the moral: a good man who costs a little more is better than the bad clerk who costs a little less. But will Finance listen?

We always complain about the obstructiveness of the Finance Department, but have we ever thought about the reasons of this obstruction and how it can be removed? Pure criticism will not produce the solution.

It is true that we must cut our coat according to the cloth, but what use is the coat which does not fit? If we are going to have a coat that fits we must find the cloth for it. Finance should determine the limits of the purse and our objectives must be defined within those limits. A High Policy Committee should decide the quality, and choose the tailors—Executive Heads to cut the coat to suit the body. This Committee will also decide how the money has to be spent. It will make bulk allotments to various Heads. In any successful business, once it is decided to carry out a policy, the amount considered necessary to carry it out is placed at the disposal of the person who is going to run the show. How he spends the money and how he runs the show, is entirely his own responsibility. Here a question is likely to arise, what happens if the means allotted are not considered sufficient by the person who is made responsible? In such a case the Head can put up a separate demand for the addition but this should not delay the execution of the policy.

Each Head of a Department should have a financial adviser till we get to the stage when the Executive and Financial powers are combined in one and the same person. Unless the financial representative shares the executive responsibility his attitude will always remain what it is today—viz. to try to cut the expenses down. In other words it is a constant tussle between the Executive and Finance. Instead of the role of an Adviser, Finance becomes a bottleneck.

DECENTRALISATION OF RESPONSIBILITY

Decentralisation can only succeed if we give each unit or Head the maximum amount of independent power. Each Head must know his responsibility and the means available in advance. At present the Head has to make a case, then ask for the money. He has then to recast his case according to the amount allotted. This goes on right down to the bottom, everyone trying to put square pegs in round holes. The amount of time wasted is criminal and this will be suicidal in a future war.

In the other system of bulk allotment Finance can argue that there would be unnecessary waste of money. This can be avoided by giving the financial background to the Executive Heads and secondly by having a research audit, which will not only check the accuracy of the statements but also report where the waste has occurred and how it could be avoided. Army is just like any other business and if you do not run the business on sound financial lines it is surely going to be bankrupt. The criticism that Executive Heads are not financial experts may be true but it is not necessary to be a financier to run a sound business. They must know the basic prin-

ciples and learn how to apply the available means to achieve the result. It is the success that counts and we should place no obstacles in the way of the person who is made responsible for producing the goods.

In the future training of staff officers we must ensure that they are given good financial background and taught the lessons of economy. A person who has learnt the lesson of thrift will always save while any number of checks and counter-checks will not stop a waster from going bankrupt. Do not have the "waster" in the business.

All efforts must be concentrated towards the attainment of victory, and when the High Command lays down a policy, everyone concerned including the Finance Department, must try to make it a success and not to pull it down because certain details have been overlooked.

If the Army of the future has to avoid repeating the errors of the past, and the country is to be spared wholesale loss in blood and money, it is essential that we must be prepared in peace for war and ready to make sacrifices. The whole system requires reorganisation.

Forces in India are to be reorganised, and it is the time and opportunity to try new ideas. We should not obscure our mental horizon by past prejudices and force of habits. Let us make the motto of our new organization "UNITY-SIMPLICITY-VICTORY".

Rocket Range in Bahamas ?

Negotiations are going on between the Government of Britain, the U.S.A. and the Bahamas for the establishment of a range for testing guided missiles in the neighbourhood of the Bahamas.

The Commonwealth's main rocket research centre is at Salisbury in South Australia. Here 3,000 square miles have been declared prohibited area and there are plans for extending the range, already 1,200 miles long, for another 1,500 miles towards Christmas Island in the Indian Ocean.

STRINGER LAWRENCE

BRIGADIER H. BULLOCK, C.I.E., O.B.E., F.R. HIST.

I. THE FIRST FIFTY YEARS

THE Indian Army did not spring into being fully equipped for war, like Minerva. It had no existence when Stringer Lawrence first came to India as the servant of a privileged trading company which had to safeguard its rich commerce but had not yet acquired any territorial ambitions. Their business had perforce to be transacted by long and hazardous routes on land and sea, and so the English East India Company employed first watchmen on the gates of their storehouses, and next sentries and gunners for wider protection. But the process of development from caretakers into soldiers was slow. It had been going on quietly for a century before the pace was forced by the appearance of a dangerous rival, the French nation, who though they had been established at Pondicherry for fifty years did not bid for commercial supremacy until the advent of the brilliant Dupleix. In the curious private war which the two Companies were soon waging on the coast of Coromandel, wherein Lawrence won for his employers a supremacy which was never afterwards seriously imperilled, the Indian Army was born and brought to a sturdy adolescence. Within five years, though he was away for eighteen months of that time, he created a force that checked the grave French threat. In his *annus mirabilis*, 1753, he thrice defeated their armies and allies and brought about the recall of his great opponent. This was accomplished by a man who had been a subaltern till he was almost fifty, had seen little fighting before, and was crippled with asthma and frequent bouts of fever. His men called him the "Old Cock", and he was a game old cock indeed.

In recent British history there has usually been an outstanding man named Lawrence. Sir Thomas, the painter; Sir Henry and his brother John, Lord Lawrence, in India; T.E. and D.H. Lawrence in the world of letters—these stand in the first rank, among the men of genius. More of the same name belonged to that secondary and very solid class who make up the greater part of the *Dictionary of National Biography*. We do not claim that Stringer Lawrence was a genius; but he was a member of the second category, of persons who, generally by their special talent or industry, have played an important part in the affairs of the nation. Biographically he has suffered surprising neglect. The first fifty years of his life have hitherto been left almost blank; his famous deeds in India, which came in late middle life, have been engulfed in the now unread pages of Orme; and for a portrait of him in old age, deeply indebted as we were to the brushes of Reynolds and Gainsborough, we owe little to pen or print. An attempt will now be made to put together, chiefly from original records, the story of his life.

Stringer Lawrence, according to the inscription on his monument in Westminster Abbey, was born on 6th March 1697. This date however is correct neither by the Old nor by the New Style calendars, and should be expressed either as 24th February 1697/98 O.S. or as 6th March 1698 N.S. He was baptised at All Saints Church, Hereford, on 27th February 1697/98 O.S., the son of Mr. John Lawrence and Mary his wife. The same parish register records the baptisms of an elder brother, John, on 27th October 1693, and of a sister, Elizabeth, on 13th December, 1696, who died in infancy and was buried on 13th May 1700. (Henceforward all year dates before 1753 will be corrected where necessary to New Style, but the day and

month left as Old Style). In the registers of another Hereford church, St. Peter's, are found the baptisms of a second brother and two more sisters: James, on 15th October 1683, Mary, on 14th November 1685, and "Barbori" (presumably Barbara) on 13th February 1687. It is evident that Stringer was one of the younger members, if not the youngest, of a sizeable and well staggered family. That the three elder children were baptised at St. Peter's and the three younger at All Saints suggests that the parents may have moved from one parish to the other between 1687 and 1693; and from the long gap between these dates one may surmise that during the intervening years John and Mary Lawrence lived elsewhere than in either parish and may have had other children whose baptisms have not yet come to light.

Little is known of his parents. There were numerous Lawrences living in and around Hereford in the seventeenth century, and the parish registers tell of their domestic occurrences; but Stringer's father is the only one at this time dignified in the All Saints register with the appellation of "Mr", which suggests that he was in some way of a status superior to that of the rest. The dignity was perhaps civic. In 1660 James Lawrence, junior, gent., had been admitted to the freedom of the city, and became mayor in the following year. In 1682 John Lawrence, apothecary, and in 1702 John Lawrence, brewer, were admitted as freemen. The city archives and the parish registers are however incomplete, and an exhaustive search made for me in the latter has produced little result. As to his mother Mary, it is conjectured that her maiden name was Stringer, for the All Saints register shows one Michael Stringer as having been buried on 13th November 1698; but a search for this surname in the Hereford registers has been unproductive. The Society of Genealogists also conducted a search of their extensive library and manuscript collections on my behalf without finding any positive clue to Lawrence's immediate ancestry. It may be significant that John Lawrence the apothecary who was in 1682 admitted a freeman of Hereford city is mentioned in a lease of 1697 as possessing a house situated on the boundary between the parishes of St. Peter and St. John the Baptist. The registers of St. Peter's, as already stated, contain the baptisms of three children of Stringer's parents, while those of St. John the Baptist have many entries under the name of Lawrence though none of them can on present evidence be connected with Stringer. John the apothecary, freeman of 1682, is more likely to have been Stringer's father whose children were being born between 1683 and 1698, than John the brewer, freeman of 1702.

There is evidence, none-the-less, that the family from which Stringer Lawrence sprung was one which during two centuries provided several distinguished men. Sir John Lawrence, knight (died 1604) of St. Ives, Hunts., had an eldest son Henry Lawrence (1600-1644), the puritan statesman who is in the *Dictionary of National Biography*. A nephew of the latter was Dr. Thomas Lawrence (died 1714), whose son was Captain Thomas Lawrence of the Royal Navy. The last-named's second son was a third Thomas Lawrence (1711-1763), a celebrated physician (*D. N. B.*) who married one Frances Chauncy and had nine children including Sir Soulden Lawrence (1751-1814), a judge who is in the *D.N.B.*, and William Chauncy Lawrence (1751/2-1783), an officer of the Bengal Army, sometime deputy judge advocate in India, and finally junior counsel to the East India Company in Calcutta.

The evidence connecting Stringer with the foregoing is briefly this. Warren Hastings in a letter of 1770¹ casually refers to Mrs. Gilbert Ironside as a relation of Stringer. This lady was a daughter of the Rev. Robert Roberts, vicar of Aldford, Cheshire, and his wife Harriet Lawrence. One of Mrs. Ironside's brothers was Colonel Roger Elliot Roberts (1753/54-1831) of the Bengal Army, who was appointed executor of the will of, and styled therein a "near relation" by, William Chauncy Lawrence aforesaid. But laborious attempts to trace the actual connection between

1. Historical Manuscripts Commission, Report on the Palk MSS., London, 1922, p. 124.

William Chauncy and Stringer, entailing much research into the Roberts family, have so far been as unsuccessful as those made into Stringer's own ancestry. The clue must surely lie in the parentage of Harriet Lawrence, wife of the Rev. Robert Roberts. The problem may yet be solved, for a good deal is known of these Roberts: for example, another daughter of the Rev. Robert Roberts was the mother of Vice-Admiral Sir Robert Tristram Ricketts, who was created a baronet in 1828 and who thus appears in many works of reference.

* * * * *

Stringer's life between his baptism when he was three days old and his arrival in India at the age of nearly fifty has hitherto been nearly unknown. Colonel Biddulph, his only biographer, and the author of the article in the *Dictionary of National Biography* practically confined themselves to reciting the particulars of the successive commissions which he held in the King's army and the places where his regiment served and he (presumptively) also saw service. But all the while a detailed statement of his career up to 1759 was in existence, though it seems to have escaped notice till 1920. In that year it was mentioned, apparently for the first and only time in print, in a book of limited circulation and interest published in Madras², but thereafter it was again overlooked and remained unknown even to the small number of persons with special knowledge whom the present writer consulted in the preliminary stages of this study. It is from this paper, which is in the Chatham MSS. and which we reproduce in an appendix, that we learn that Lawrence's apprenticeship to the business of public affairs was of no ordinary character.

At the age of thirteen he was appointed a page to Charles Mordaunt, the eccentric Earl of Peterborough, one of the strangest men of a remarkable period. After the termination of his command in Catalonia during the war of the Spanish Succession, Peterborough's frantic energy was diverted by the Government into a series of diplomatic missions, in the course of which he was said to have worn out more postillions and met more crowned heads than any man in Europe. Lawrence accompanied him in 1711 as a page on the embassy to the Emperor Francis Joseph, and remained for the most part in his service until 1726, when he went as a "volunteer" — i.e., as a candidate for a commission — to the siege of Gibraltar. At the end of the following year, on 22nd December 1727, he was able to secure by purchase an ensigncy in Clayton's Foot, one of the regiments quartered on the Rock. It became the 14th of West Yorkshire Regiment. For nineteen years, sixteen of which he spent at Gibraltar, he remained in this corps: indeed he never served in any other. Promoted lieutenant on 11th March 1736, he became a captain-lieutenant on 22nd June 1745. This last rank, the highest he attained in Europe, was roughly equivalent to the position of senior subaltern and was held by the officer who commanded the lieutenant-colonel's company in the battalion. He was forty-eight years old by the time he reached it. He was never a captain, despite statements to that effect by several writers.

This part of Lawrence's career is still obscure. Of Clayton's Regiment there are two printed histories, by Cannon (1837) and O'Donnell (1893). They show that the regiment embarked in March 1727 for the defence of Gibraltar, their Colonel Jasper Clayton having arrived there in the preceding January as lieutenant-governor. They reached the Rock on 21st April and hostilities ended on 18th June. Remaining there till 1742, they disembarked at Portsmouth in September of that year and served in Yorkshire, Berwick (1744), Dunstable and Colchester. On receipt of the news of the battle of Fontenoy (fought 30th April 1745) they were ordered to Flanders, and embarked at Tilbury on 15th May, joining the camp at Lessines before the end of the month. On the outbreak of the Jacobite rising they were sent to the north of England, and were at Newcastle by the second week of

2. Calendar of Madras Despatches, 1744-1755, by H. Dodwell, Government Press 1920 introduction, pp. ix-xi. Public Record Office, Chatham Papers, G. D. 8, bundle 48.

November. After garrisoning Berwick, Clayton's went to Edinburgh, and were present at the battles of Falkirk (17th January 1746) and Culloden (16th April 1746).

Lawrence's service as a volunteer at Gibraltar must have been with some other regiment, as yet unidentified; but from the date of his first commission in Clayton's he may be presumed to have accompanied them in their various peregrinations up till, perhaps, November 1745. The statement of services, according to which he served as aide-de-camp to Lord Tyrawly in Scotland, leads us to try to trace the movements of that nobleman at the relevant period. He was James O'Hara, the second Lord Tyrawly, who after being Ambassador to Russia was on 6th October 1745, as a lieutenant-general, appointed second-in-command of Marshal Wade's army, with headquarters then at Doncaster which later moved to Newcastle. It is not apparent whether Tyrawly went into Scotland, though the statement of services implies that he did. He may have moved into the south of Scotland, but he was not present at either Falkirk or Culloden. Yet O'Donnell's history of the 14th Foot, in its appendix on Stringer Lawrence (after very inaccurately stating that he was born in 1695) says that he "served as a subaltern officer in the regiment at Gibraltar, in Flanders, and at Culloden: appears to have left the regiment in Scotland after Culloden". If this can be relied on, it could only be reconciled with the rest of the available (but incomplete) evidence by assuming that (i) Lawrence became Tyrawly's A.D.C. early in 1746 at some date between Culloden (17th January) and Falkirk (16th April), and (ii) Tyrawly had by then moved into Scotland and held a command there. It is probably significant that in the statement of services it is not claimed that he was present at either battle. On the whole, it seems likely that he was not so present. He does not seem to have seen any fighting in Flanders; he was undoubtedly one of the defenders of Gibraltar in the least strenuous of its sieges; yet it appears that the East India Company engaged him (as O'Donnell states) as "a soldier of great experience". That experience can have included little actual fighting. Nor is it likely that his appointment to India was procured by influential patrons. He was almost thirty when he received his first commission, and close on forty when he was made a lieutenant. What patronage he could command we do not know, but it looks as if such support may have largely failed after Peterborough's death, though the post on Tyrawly's staff may have been a vestige of it; and we may assume that Lawrence's financial resources were slender or he would have been able to avert tardy advancement by the purchase of steps to ranks more appropriate to his years.

Still, his age may have been counted in his favour when he presented himself to the Directors of the East India Company as an aspirant for the command of their soldiers in and around Madras. The former Major of the Garrison of Fort St. George, one Knipe, had died in 1743 and had not been replaced. Now, with the French drive against the Company's settlements and trade, the need of an experienced British commander was urgent. The Directors met in London on 17th December 1746 and "resolved that the garrison of Fort St. George be strengthened with a number of recruits, sergeants and ensigns, and that an able officer be sent from hence, as Major thereof, at the salary of £250 per annum and one hundred guineas for his charges. And Captain Lawrence being recommended as a person qualified for the post, resolved by the ballot that the said Captain Lawrence be appointed Major of the Garrison on the terms above mentioned, and being called in, he was acquainted therewith". He thereupon resigned his commission in Clayton's, on 20th January 1747, and sailed for India in the Company's ship *Winchelsea* on 18th February following, a week before his forty-ninth birthday.

We must add that he was not candid on the subject of his age. Indeed, he deliberately cut five years off it. Perhaps he felt that while a Major of 44 would be acceptable to the Directors, a man on the brink of fifty was a little too old

for them to choose to go to India, for the first time, to fill an active appointment. That he did fake his age is evident from the embarkation rolls which show him as aged 44 on 18th February, 1747, and the list of Company's servants at Fort St. David on 31st December, 1748, giving his age as 46. The information in these documents must have been derived from Lawrence himself.³

APPENDIX

(Public Record Office, London. Gifts and Deposits. Chatham Papers. G.D.8. Bundle 48).

Fort St. George.

March 24, 1764.

Sir,

Capt. Fitzgerald who is safely arrived with his Party says you had favored him with a Letter to me, but that he was robbed at Rio Janeiro by his Servant of some Things in which it was enclosed.

Permit me Sir to express the Concern I feel at being deprived of the Satisfaction of receiving a Letter from You, and at the same Time to assure You how much I think myself honored by the favorable Manner in which you was pleased to mention me in the House of Commons. It is with a peculiar Pleasure I reflect that my Actions have met with Your Approbation, and I cannot but esteem the Honor You have conferred on me as greatly heightened by the Worth and Merit of the Speaker.

That you may long continue to enjoy an uninterrupted State of Health will be but joining in the Wish of my Country which cannot fail to reap the Benefits of it.

I have the Honor to be,

With the greatest Respect,

Sir,

Your most obedient

most obliged humble Servt.,

STRINGER LAWRENCE.

To

the Rt. Honble. Wm. Pitt Esqr.

COLONEL STRINGER LAWRENCE

In the year 1711 He accompanied Lord Peterborough as Page in the Embassy to the Emperor Joseph and continued for the most part with that Earl till

In the Year 1726 He went a Volunteer to the Siege of Gibraltar

In 1727 He bought into General Clayton's Regiment and remained in that Corps 19 years, Sixteen of which were spent at Gibraltar and afterwards in Flanders and some time in Scotland as Aide-de-Camp to the Lord Tyrawley

In 1746 He obtained His Majesty's leave to command the Troops of the Hon'ble East India Company on the Coast of Choromandel, and was soon afterwards

³. Calendar of Madras Despatches, 1744-1755, p. 266; Fort St. David Consultations 1748, p. 240.

promoted to the Rank of Commander-in-Chief in India, and honoured by His Majesty with the Brevets of Major, Lieutenant-Colonel and Colonel, the Two last Commissions, taking Rank in India Only.

In the last War while he commanded, the French were repulsed from Cuddalore and Fort St. David

At the Siege of Pondicherry in 1748 when He commanded in the Trenches, unfortunately he was made a Prisoner, to the very great Regret of the Commander-in-Chief

In 1749 He laid Siege to the Fort of Deve Cottah and reduced it by Storm

In 1750 He obliged the French Army to retreat to Pondicherry, leaving 11 Pieces of Cannon and all their wounded on the Field of Battle

In 1752 When Trichinopoly was besieged by the French He marched to its assistance, raised the Siege and made the whole French Army Prisoners to the Nabob

After this till the Truce took place in 1754, the French receiving large Reinforcements and the King of Mysore and the Morrattas joining them, He was constantly in the Field and always Successful, though always outnumbered

When Colonel Aldercron was recalled, He had the Honour to command in Chief His Majesty's as well as the Company's Forces, and his Command terminated with obliging Lieut.-General Lally to raise the Siege of Madras and following him into the Field with a much Inferior, but a much braver little Army, to offer him Battle

Being reduced by Fatigue etc and a bad State of Health, in 1759 much against his Inclination, He resigned his Command and returned to England universally beloved and his Absence universally regretted in India

Nor in Truth are his Virtues unequal to his Valour and Military Abilities, the very small Sum he acquired when many of his officers enriched themselves, is a Proof of his Disinterestedness. He was the Patron and the Advocate of Merit wherever He found it, and Happiest when he could best reward it

His Actions were always upright, and his Enemies, if so great a Character can have Enemies, will do Him the Justice to acknowledge, that He always preferred (*sic*) what he judged to be the Interest of the Publick to every other Consideration.

Note: It seems probable that Pitt, on receiving the letter set out above from Lawrence, called for a memorandum of Lawrence's services for his information; and that the above paper was prepared in consequence, perhaps by the East India Company, perhaps by one of the Departments of State—though it is tempting to try to recognise the hand of Orme or Clive in the last two paragraphs.

BURMA DAYS

MAJOR P.G. DEVASHER

I. "ON THE ROAD TO MANDALAY"

THIS is a Chapter about an idle fortnight in which I indulged in some idle thoughts. When I spoke to a fellow-Punjabi about some of them he thought I have been seeing things. This is how it all came about:—

In the course of my duties as Adjutant I discovered that there was a gap in my education that I could profitably fill by attending a course at the Alfsea School of Education, Maymyo. Maymyo, in North Burma, just the job. The C.O. agreed that there was some future in that direction and a vacancy was duly applied for on the Unit Education Officers' Course. By and by one was allotted and I was detailed to fill it. That was something about which Higher Authority could not very well do much. Though everyone knew what the bandobast was about.

Accordingly one day my orderly and I, armed and equipped in accordance with Field Service Regulations, betook ourselves to the bomb battered Rangoon Railway Station and started on our journey North. At first sight the train looked a very uncertain affair, with just bare boards for seats and no water or lights even in the upper class coaches. But it got going on time and certainly kept it all the way up to Mandalay. We pulled out of the yard under an overcast sky with large, heavy drops of rain already beginning to fall. Looking out of the window at the damage and destruction in evidence on and around the line, one's thoughts flew back to the fateful days of 1942 and the long, dark chapter of retreat. The senior officer on the last train out of Rangoon, the very last, had related to us in Jullundur the story of that memorable journey, a story of incident and adventure, leadership and loyalty. The complement of that train was made up almost entirely of Railway officials who had stayed at their posts till the end, the very bitter end. The evening drew on, and sitting in my rickety, unlighted carriage I could picture their hurried preparations, the last-minute jobs they saw to, and the good-byes they left unsaid before they hitched their Loco and headed North for the safety that many others had sought before them. Two of these men I had known myself when in Transportation. One of them I had been on a course with and the other, the Chief, I had occasionally met when employed on the L of C in Bengal and Assam two years ago. The last time I had met him was on a River Steamer on the Brahmaputra, crossing over from Pandu to Amingaon. The ship was full of leave details from the forward areas including many members of the Women's Services. As can well be imagined, the saloon was one big jumble of discordant sounds—singing, laughter, loud conversation in which the aid of God and Christ was frequently invoked. There were American officers standing by the railing showing the girls how best to obtain a 'panoramic' view of sunset over the River, at the same time trying to date them up for the ensuing week in Calcutta. In the midst of all this noise and hilarity we two had stood in a corner and talked about the last train. And here I was now, following in its wake, and, from a purely Railway point of view, in circumstances not very different from those that must have attended its progress. But there were differences. In due course Toungu was reached, a snack meal and a mug of tea obtained at the Rest Camp hard by the Station, and the journey resumed. I don't know if that last train ever stopped at Toungu. Even if it did it certainly was not for a meal. For there were no smiling orderlies of a friendly Rest Camp Mess waiting to greet them. Instead there was danger all around.

The following morning found us in the Dry Belt of Central Burma, with a clear, sunny sky and a warm dust laden wind rising and falling over the bare, brown plain. Gone were the leaden skies and the persistent, fungus-like undergrowth of the coastal belt. Why, one might well have been in the Southern Punjab. But the cone shaped Pagodas dotted all over the plain and the saffron robed Poonjis at wayside stations reminded one that one was on the Road to Mandalay instead. Yes, on the road to Mandalay:

"Ship me somewhere East of Suez,
Where the best is like the worst,
Where there arn't no Ten Commandments on a man can raise a thirst,
For the temple bells are callin, and it is there that I would be,
By the old Moulmein Pagoda looking lazy at see,
I've a neater, sweeter maiden in a cleaner, greener land,
On the road to Mandalay".

What a chain of memories, pictures, and thoughts the words of Kipling let loose — the ceremonial and finality of Absolute Rule, the long drawn out chapter of lathi charges, and the fateful Palaver at Simla round which all our hopes and fears were centred. There was a certain loftiness and audacity about the old British Imperialism and its agents which it was impossible not to admire. Perhaps nowhere was this more evident than on the North-West Frontier. Nearly twenty years ago my father was stationed in an outlying section of the North Western Railway (of which he was an official) and part of his jurisdiction lay across the Indus, in the Frontier Province. In those days there was no bridge across the River and passengers had to cross over from Mari Indus to Kalabagh by Ferry Steamer. We children were sometimes taken for this little 'voyage' as a reward for good conduct over a given period. As this is the main Route to that very turbulent region, Waziristan, the old ship used to be a great rendezvous for officers proceeding to or returning from that part of the Frontier. I can never forget the air of quiet but sublime self-confidence that these men possessed, or seemed to my boy's mind to possess, as they paced the deck singly or with friends—new and old. The Frontier was then very much fiercer than it is now, and many of these men, specially the younger ones, were commanding lonely and isolated Scout or Militia posts. But for them the Frontier held no dread, for that kind of man had a way of dying on rock and crag:

"When you are wounded and left on Afghanistan's plains
And the women come out to cut up what remains
Just roll out your rifle and blow out your brains,
And go to Gawd like a soldier".

But the old order changes, as it inevitably must, yielding place to new. A great change—the change for which we were all waiting—was in the offing in the conference room of the Viceregal Lodge; but what a change had come over things already! Stretching full length on my bunk, gliding past sun lit fields and pagodas, one recalled the tumultuous years of the late twenties and early thirties; years of the Congress challenge to the British Raj and its Magistrates, years when a certain kind of salt fetched five hundred rupees for a teaspoonful and when some years in jail fetched only the flowers and tears. A procession, a speech, a song, an order to disperse—and a charge by the Police; that was the usual sequence. It was direct defiance of the authority of the Government as by Law established, and that Government conceived it its duty to see that its Laws and edicts were respected and obeyed. I was only a boy then, unable fully to understand what was happening, and why. And I have made no special study of the political history of those times since. But I think I am right in saying that powerful calls on one of the most fundamental loyalties of men were made on both sides then; more so than at any other time in recent years. But all that was gone. Instead, now former rebels thought nothing of taking

their time in making up their minds or of forcing sentries and getting arrested while one of His Majesty's Principal Secretaries of State sat waiting for a reply to a letter.

At Mandalay, which we reached about midday, we all went into the Local Reception Camp to be sorted out for onward despatch to our respective destinations. The camp stood a few hundred yards from the outer ramparts of Fort Dufferin; which, I presume, marked the perimeter wall of the palace of the old Kings of Ava—the "Centre of the Universe"—that the readers of the "Lacquer Lady" know so well. The moat is still there, and a glorious moat it is too, broad and deep and full. A strong sense of atmosphere pervaded the place in the evening. The pale moonlight, the softly lapping water, the rustling trees all combined to produce that strange, half exotic, half mysterious feeling with which tropical countries are associated. The moon is the same everywhere, but not so the moonlight; or at least the reactions it provokes. The austere moonlight in an Alpine setting with its plain emphasis on light and shade, or the cold, unimpassioned moonlight of the desert night with its more subtle emphasis on silence, are different from the alluring moonlight of a warm, balmy clime which forms a perfect setting for things (or thoughts) of Romance and imagination. However, whatever my thoughts, no romantic or supernatural experience befell me in Mandalay. The next day found me and my orderly in the train for Maymyo which we reached in time for afternoon tea, none the worse for our journey, and rather pleased with ourselves and the spot we had come to.

Maymyo, on the Shan Plateau, is one of the prettiest hill stations I have seen. The 'knife edge' feeling—and the grandeur—of Himalayan hill stations is absent. What there is instead is a great, green rolling plain with diminutive ranges of hills and isolated cols sticking out here and there. Wild flowers carpet the earth. Trees abound, generally growing sociably in wood and grove, though now and again one does come across an aged Deodar standing by itself in the midst of a meadow or on top of a hill. On the whole it is a soft, lush kind of natural beauty. Walking out across open country in the evenings, specially after a shower, was a rare pleasure. Somehow that wet, green, fragrant countryside reminded me of the quiet landscape of rural England that is inseparable from the works of Jane Austen. I know the hills were too high, and the undulations of the ground too severe for Miss Austen's gentle nature but every time I turned a hyacinth bush I wondered if I should come upon Elizabeth Bennet walking home to Longbourn, Elizabeth with her prejudices, her superior wisdom, and her beauty of form and figure.

The Education School turned out to be a very pleasant, homely sort of place in which the staff and the students lived in the same Mess and tried to see each other's point of view from the very start. That is important on an Education Course. When one goes to the SME to attend a course on demolitions it is not at all important for the student to know how his instructor looks at life and its problems, or vice versa. What is important is the fact that the instructor knows the velocity of detonation of Gelignite and the student doesn't; that and the further fact that the instructor can instruct and handle his class. But when a bunch of officers is told to assimilate categorical statements containing information such as (a) the Instruction of Indian Soldiers in English has now been taken by GHQ (I) in its own competent hands, or that (b) in a Discussion Group everyone should be allowed to have his say, it is a little bit different. Then it helps to get to know each other. My own course was quite an unexciting one, the highlights being provided by a very bad practice lesson by me and a very good one by the other Sapper on the course. But there was something exciting going on at the school—a class in Basic English. We were taken round to see it one afternoon. When we arrived on the scene the class (of about fifteen) was seated in a semicircle and the instructor was standing to attention at what appeared to be the centre of the circle, facing the class and us. Suddenly his hands shot up, round and over his head and back again. "Head", the class were taught in a clear, loud voice. This was repeated twice or thrice. The instructor then treated his neck in a similar manner; then both head

and neck a couple of times. Next he turned his attention to the class. He first of all went through the whole drill individually with each student, then by half sections, sections, and finally the whole parade, "Head—Neck", "Neck—Head", "Head—Neck" thundered the class, going through the prescribed movements at the same time. In due course the lesson was declared concluded, the class was dismissed and we were asked if we had any questions to ask. We had none. The instructor saluted and marched out of the room, followed by us in single file. What did we think of it? A great deal. If those men had done exactly the same thing by night, gathered round a smoky wood fire under a tree, stuck feathers in their hair and worn leopard skins instead of green uniforms, I am sure the proceedings would have compared very favourably with the meeting of a secret society in the heart of Central Africa. In any event I think if a society for the prevention of cruelty to teachers is ever formed Basic English schools should take a high priority in the inspection programmes of its officials.

At the end of the fortnight I took my farewell walk over the thymy downs, packed up my kit bag, and left Maymyo, much to the indignation of a very self-important and agitated Movement Control N.C.O. (His grouse was that whereas the School had booked accommodation for five officers only one had materialised. He strongly hoped, therefore, that I would also stop back. But that hope of his was not fulfilled). I do not know if it was because I was just climbing down from the hills, but from Mandalay onwards I found the Dry Belt a long sight drier than I had a fortnight ago. Without any doubt that was one of the hottest and driest evenings I can remember. There was not a puff of wind anywhere, and not a leaf moved. I had filled my canvas wash basin at Mandalay and doused my face and arms and neck every twenty minutes or so. But, as we say in Punjabi, the perspiration came back even while one was towelling oneself. The sky was a dark, lurid red for a long time after sunset. There was no moon. It was just hot and still and dark.

I have said earlier in the chapter that this part of Burma resembles a certain tract in the Punjab in the general character of the landscape. And so it does. But it is Burma, all the same, not the Punjab. Even without Pagodas and Poonjis, even without the people, it would be Burma. It is written all over it, and that is what the whispering wind says. So charged with personality is the place. Alone in my carriage on that unlit, slow, halting, hesitating train I thought to myself what would happen if I got off at one of those little stations where we stopped and walked out into the twilight. It seemed that if I did so I would have the same sort of experience that one has when one is announced into a strange room and the door is closed behind. Yes, a door would open, let me in, and close behind me. A door to new opportunities, new hopes, new regrets, a New Life. Perhaps the effect of individuality was intensified by the absolute stillness that hung over the scene. Stillness can be of various kinds. There is the stillness of the desert night, the stillness before the dawn, the eerie stillness of the Equatorial forest; and there is the stillness of the Central Burma plain at dusk which seems so strongly to *presage something*. I had only to go out into it and something would happen. But that was a door at which I did not knock. Instead I remained securely in my carriage, with my bed spread on the hard wooden bunk and my Smith and Wesson revolver under my pillow—loaded. If I *had* left the train that night it would have been regarded as a bit odd in the Mess, even the Mess of 9 E.B.

THE CASE FOR ARMY P.R.

CAPTAIN C. L. PROUDFOOT

PR is the abbreviation for Army Public Relations Service. It is that department of the Army which, as the name indicates, is concerned with proper relations between the Army and the Public. It maintains these relations through the media of Press, Radio, Cinema and various other means.

During the War, PR officers in the field shepherded war correspondents, furnished them with on-the-spot facilities for censorship and news transmission, and generally ministered to their wants,—a job requiring infinite tact when dealing with so many brilliant but often eccentric individuals.

Other Public Relations Officers, themselves professional writers, turned in field contributions on their own. These were what are generally known as "human interest" stories and feature articles, illustrated by Cameramen of the Army Film and Photographic Unit, a sister organisation. These PR men usually worked in areas where there were no war correspondents and specialised in morale-raising stories about unglamorous Units plodding away in obscurity. To them a General was news, but a "buck" private was a story.

PR's other tasks were the production of Army newspapers, documentary films and, when required, recruiting propaganda.

Instead of dying out after the war, as was intended, Public Relations has undergone a complete metamorphosis and emerged a virile and rapidly growing service. The British Army for one, decided to wind up its PR about the end of 1946, but suddenly reversed its decision and established it as a permanent service with a Major-General as Director. Now, besides the Armed Services, most of the other Government Departments as well have their Public Relations branch, though the technique of the latter appears to be still in a formative stage.

With the end of war, the Army PR discovered that it had to play a peace-time role, which was just as important though quite dissimilar to its war-time one. It was the vital job of ensuring thatt the Army's case did not suffer by default. This can best be explained if you imagine two kinds of publicity—negative and positive, the positive being the kind that can be seen and the negative the kind that is not so evident. I can best illustrate this idea with examples based on my own experiences as a PR officer at the Headquarters of the Far East Land Forces in Singapore, during 1946-47.

Positive publicity embraced Press, Radio and Screen but the Newspapers most of all. Local publicity included press coverage for all events of interest to the Army and of all Army functions of interest to civilians. The Press was always eager to co-operate if forewarned in time, but very often could not obtain transport for distant jobs,

or the Press photographers were not available, or they had other assignments and so forth—in which case PR provided both transportation and cameramen!

Reporters were always carefully briefed by the conducting PR officer and kept informed of the proceedings throughout the show. And yet in spite of the best will on both sides, it was surprising how often mistakes occurred in the report that was published. A Regiment's name spelt wrongly, or a General's decorations mixed up or omitted, will never strike the layman as an error or omission, if it occurs to him at all! But to that particular Regiment and that particular General it means a great deal because to them these things are matters of professional and personal pride.

Besides hard news, PR produced its own illustrated feature articles and stories for publication in local and foreign papers. This was the job of PR Observer Officers who were stationed wherever there were troops, and this material usually took the form of "human interest" stories of individuals and Units. The stimulating effect of this type of publicity on morale can be easily under-estimated, especially after the specious glamour of campaigning has given place to the comparative dullness of peacetime soldiering. For nothing is more conducive to the undermining of an Army's discipline than the creeping ulcer of boredom induced by sameness and monotony. And conversely, the fillip to morale derived by seeing one's name in print is psychologically admitted.

Broadcasts, too, formed an important medium of publicity, offering a wide field of talks in school education programmes, feature talks on well-known Army personalities in the news, or on-the-spot relays of interesting functions.

Newsreel people had also to be kept advised of possible scoops, whilst PR was often approached by local film companies for advice, information or the loan of equipment as props.

Practical experience in commercial advertising was an invaluable asset to the PR man suddenly faced with, for example, the job of budgeting, preparing and launching a publicity scheme for recruitment. It meant designing of posters, cinema slides and newspaper advertisements with specially directed appeal. It meant space bookings in newspapers and cinemas; writing of copy and checking of translations. If the scheme was to be augmented with a documentary film PR did the scripting and assisted direction; if there was a radio tie-up PR prepared the talk and usually delivered it.

Negative publicity embraced so many and varied forms that a special article would be necessary to deal with all of them. The basic principle, as always, was implementation of the service's name—Public Relations, i.e., the maintenance of good relations between the Army and the Public—a difficult job in Singapore in those days when the Britishers then liberated from Jap internment camps nursed a grievance against the Army from some inexplicable process of reasoning whereby the blame for all their sufferings was laid at the door of

the Garrison troops; especially difficult when these men held key positions in the only two Newspaper Syndicates of any importance in Malaya and Singapore.

At Headquarters levels, the PR officer was the Commander's personal adviser on public opinion as it affected the Army. His finger was constantly on the public pulse through the cultivation of civilians in all walks of life; through a study of the world and local Press and monitoring of the radio news broadcasts.

Close liaison was kept with the Civil PR organisation since it was necessary for the mutual benefit of both. All service-news hand-outs were delivered to Civil PR who ensured simultaneous distribution to all newspapers, agencies, correspondents and the Radio News-service—a very important and delicate matter in the News-world which figuratively lives "from scoop to scoop".

All invitations to the Army for official Civil functions were made through Army PR and vice versa for Army functions. Both PR chiefs were unofficial members of the various committees which dealt with De-requisitioning, Road Safety, Army Building projects, Aid to Civil and other matters of mutual concern.

Thus PR served as a channel between the Public and the Army. For the Press it arranged conferences and interviews with the C-in-C and other Heads of Services; and if interviews were not possible Press questionnaires were submitted to PR who undertook to get answers. The channel worked in the opposite direction as well and all newspaper articles from Army personnel on military subjects were "vetted" by PR prior to publication—a very necessary precaution during specially difficult times.

What, you might ask, are the qualities that go to make a good Army PR officer? Essentially, a sound Army basis with some Staff experience. If a professional journalistic background is lacking then the ability to write fluently and type speedily would be necessary. A knowledge of photography comes next in importance whilst even a nodding acquaintance with Advertising, Broadcasting and Cinematography would be assets. Add to these imagination, drive, quick wit and ease of expression—temper these with a modicum of tact, and you have the material for a PR officer. But with all these qualities no trainee will be successful without a certain amount of fanaticism for the undertaking, because PR is not a pastime—it is an exacting creed!

The need for a dynamic PR organisation in the Indian Army of today is beyond question. Conditions are dissimilar to those illustrated as prevalent in Singapore, but other reasons for its necessity are clear-cut and overpowering in their urgency.

Firstly, the Indian Army is no longer an Imperial Army but a national institution, maintained from Public funds. Therefore the Public is entitled to know all about the Army. I say "all" because at present it knows nothing—absolutely nothing. A paltry percentage have some knowledge of it, but to some 200 million Indians, the Army still means a vague conglomeration of uniforms and guns.

Of its traditions, training, components and work they have not the slightest inkling.

The People must be told about the Army—their Army—in the Press, by Film and Radio. The resultant knowledge will promote mutual understanding and interest; the right kind of young man will eagerly come forward for being Commissioned and “drives” for recruiting will become unnecessary.

For the Army itself, it will mean that its case will not go by default. The country and the world will be told of its achievements in peace and in war. Expert Press liaison will obviate the errors in reporting which occur even in the leading newspapers through lack of advice, incorrect interpretation, or mutilated Agency reports.

That same pride which the Army will take in seeing its achievements publicly acclaimed will also inspire it to greater endeavour.

Lastly, it will obtain quiet satisfaction from the knowledge that its reputation is being assiduously and jealously safeguarded. And, in addition to a strong and efficient army, no other single factor is more conducive to the stability of a country than a contented Army.”

Australian Memorial to U.S. Forces

Erection of a memorial in Australia to the armed forces of the United States of America which participated in the Pacific War has been approved by the Australian Government. The form of the memorial has not been decided. The Australian-American Association has been asked to develop the proposal and submit suggestions. These will be considered by the National Memorials Committee, and later be placed before the Australian Parliament.

It is not likely that the memorial will be part of the Australian National War Memorial at Canberra. It is generally believed that it will take the form of a Roosevelt Wing of the National Library.

ARTICLE WRITING

COLONEL J. S. GAREWAL

"If you wish to be a good writer, write."

—Epictetus.

WRITING has always been considered an accomplishment from time immemorial. In the army, power of expression is essential for an officer. In the following paragraphs I am going to discuss some of the important rules of writing. In doing so I address myself particularly to the young officer who is keen to develop his powers of written expression, and to those who wish to take up free-lance writing as a hobby.

CAN YOU WRITE ?

You have probably heard that good writers are born and not made, and so have doubts about your capabilities. Every writer, however great he may have become, was assailed by such doubts in the early stages of his career. Some were born writers but most of the great authors of the world made an ordinary start. Writing is something which one cannot learn all at once. It has its rules and you have to follow them. It takes time and practice. Experience is a big factor and can make the difference between a good article and a bad one. Everyone can write, if he observes the rules and is patient. The quality of one's writing will vary with one's knowledge, experience and aptitude. There is no reason why you should not be able to write and have the pleasure of seeing your ideas and name in print.

QUALITIES OF A GOOD ARTICLE

It would be worth our while to discuss the qualities of a good article, before going any further.

The first thing you have to do is to study the periodical to which you wish to contribute, to find out the type of articles published. Every editor has to make exceptions when he is short of material; but why waste your time and energy on writing something which stands a chance of being rejected, because it does not happen to be the type of article normally published in that paper. Why send an article on gardening to a Society Magazine?

The next thing is to find out what should be the normal length of articles accepted for publication. A large number of articles are rejected because they are not the right length. An editor does not have the time to write to contributors and state the individual causes of rejection, but unsuitable length is one of the main causes.

All human beings are born with a sense of inquisitiveness. Unless an article can arouse a reader's interest and make him inquisitive enough to continue, it is a waste of time writing it. So study the type of reader you are catering for, and his interests. The type of matter published in past issues of the periodical will give you an idea of the subjects which interest a large percentage of the readers. A good article should not only arouse interest, but sustain interest throughout.

Padding is the cotton wool, a writer places round the structure of the article to fill in awkward gaps. A certain amount of padding

is necessary to round off the edges, so-to-say, but it must be closely associated with the theme of the article, so that it does not stick out as padding. If you do not know the art of padding without making it obvious, do not try it. Try to eliminate everything which does not have a direct bearing on the subject in hand.

A good article should be carefully checked and corrected. Writers are inclined to heave a sigh of relief, when the first draft of an article is finished. If you read it carefully, you will find that there are dozens of mistakes; and the easiest method, probably, is to re-write it. It will perhaps cheer you up to know that some of the famous authors are reputed to write and re-write as many as twenty times before sending their manuscripts for publication. In checking make sure that your statements of fact are correct. Also do not place too strong an emphasis on certain facts merely because they prove your argument. A dispassionate assessment of facts will carry more weight than an emotional outburst.

The article should be easy to read. One sentence should lead to another and a paragraph should round off a complete idea. Use plain language and easy words. So many articles are spoilt by the writer shrouding his ideas in high-falutin language, with long disjointed phrases and sentences running into hundreds of words. The reason is that the writer is not clear in his own mind as to what he wishes to express. Short clear sentences show clarity of thought and expression. What the reader wants to know is what is behind the words: the *thought*. The subject of composition is so important that it merits special treatment in a later paragraph.

You will not get very far unless you have an urge to write. By this I mean there should be something inside you trying to find expression; an impulse which drives your pen to paper. You must have something to say—something in which you are personally interested, and which would arouse interest in others. Emerson has said: "No man can write anything who does not think that what he writes is, for the time, the history of the world".

We all have an urge to write, now and then; and we all think that we have something of interest to say. Now, let us qualify this urge. It should be consistent; it is no use having the urge once a week or once a month. The urge should be at the back of your mind the whole time. Give expression to this urge by writing something everyday. If you cannot find a subject, write a letter, or write anything that comes to your mind to sustain the urge. In actual fact if you sit down with determination to write you will be able to do so. Samuel Johnson has said: "A man may write at any time if he set himself doggedly to it."

MATERIAL FOR A GOOD ARTICLE

Before you start writing you must have an "idea" to express. An idea is like a phantom which shows itself to your mind's eye and in a flash it is gone. Pursue it, and never take your mind's eye off it until you catch it. Before you let the idea take root in your mind, analyse it. Is it suitable to form the subject of an article? If it is not, get it out of your mind quickly, and think again. Concentrate on the type of material wanted and then look for ideas. When something comes to your mind jot it down quickly before it vanishes. The

idea may be worth a name and a fortune, or if you are not ambitious worth at least the paper it is written on.

There are, we may assume, two types of ideas: subjective and objective. The former are your experiences, in the spiritual, mental and physical domain. Objective ideas are those concerning other persons and things. Start by interviewing yourself. What are your strong points? What are you a specialist in? What are the things that interest you? What are the things, in the armed forces, on which you can speak with authority? What is itching in your mind to find expression? What are your particular suggestions for the improvement of the Services? All the time whilst you are interviewing yourself, keep asking yourself "would this be of benefit or interest to others?" This question should be the touchstone for testing the worth of your ideas.

Another source of ideas is the reading of books, newspapers, magazines and pamphlets, etc. Note down those subjects which could form the headings of articles to suit the taste of the class of reader that the publication caters for. Ideas beget ideas; only be on the look out to catch them and develop them. Whilst developing one idea, or writing an article, certain other ideas may occur to you, which would form suitable subjects for other articles. Note them down for future analysis and development.

In order to "develop" an idea concentrate on the subject and make a note of the "sub-ideas" which are closely associated with it. For example, concentrating on a rifle may bring the following association of ideas to your mind:

A film showing the history of the development of armament.

A demonstration of how different types of arms work.

International market in arms.

An armament exhibition or museum.

Industrial use of explosives.

An article on the possibility of atomic energy providing the motive power for aeroplanes of the future.

Some of these have the germs of reader interest and could be included in the article in one form or another, if you develop the article on the right lines. The development of an idea consists in analysing it into sub-ideas and associating them with each other to form one topic.

You may find that your mind does not give you all the information you want to write the article—particularly if your article is factual. You must know where and how you are going to get the necessary information to develop your article. Go to the nearest library and look up the history of explosives, etc., in a reference book, or encyclopaedia. You may be lucky to find books on the subject which would give you all the information you want. A visit to the local arms dealer may get you an illustrated brochure, and all the other information you want. Other pamphlets may give you information about different models, latest improvements, current demands, etc. Combine the information with your own knowledge and expe-

rience and "pigeon-hole" the information under suitable sub-headings. Yet another source of gaining information is by asking questions and entering into discussion with persons who have knowledge of the subject.

COMPOSITION OF A GOOD ARTICLE.

An article—any written work for that—is normally divided into three parts: introduction, main body, and conclusion. These are the pegs on which you hang the article. The main body will contain all the information and should be sub-divided into headings so that one heading leads to another in a logical sequence, until the conclusion is reached. All your sub-ideas become headings and sub-headings of paragraphs in the main body. Do not start writing until you are fully satisfied that the framework is sound, otherwise next to re-writing the article you will find it difficult to re-arrange it into a logical sequence.

A good introduction makes so much difference to an article that it would be worth while studying its qualities. First of all, an introduction should catch the attention of the reader, preferably with the first sentence or two. Whether a reader will read your article or not, in most cases, will depend on how "catchy" your introduction is. Secondly, an introduction should break the ground gently and introduce the reader to the subject without being abstruse. Thirdly, an introduction should give the reader enough information to guess the type of matter he is likely to find in the main body of the article. A conclusion should give the reader the impression that the subject has been adequately dealt with. It may sum up the salient points brought out in the article, or have a moral.

Develop each sub-idea under a heading or sub-heading. Write all the relevant thoughts which enter your mind as they occur. Do not stop to break the chain of your thought, as you may find it difficult to find the link again. Pursue the chain of your thought until you have completed the article before you start correcting. It is very unusual for a first draft to be published without corrections. With experience you will find that one makes fewer mistakes. Sometimes it is best to let a friend read your draft and offer suggestions for correction. He will probably spot mistakes that you could have never done as the author.

A final rounding off is necessary to see that your article is not jerky. Abrupt sentences and paragraphs may have to be changed or re-worded to ensure that the article reads smoothly, and the theme of the article and reader interest is maintained throughout. In the final check-up, correct the mistakes of spelling and composition. A dictionary should be kept handy. Even the best educated among us make spelling mistakes!

Each writer has his own style. A simple straightforward personal style as practised in personal letters is popular, but a lot depends on the type of article. However, a rigid and wooden style is to be discouraged. Try to make your style natural. Do not force it nor try to copy that of well-known authors. Develop your own.

The rules of composition whether for writing an article, or for military writing, are similar. The subject of composition is impor-

tant, because, however good your ideas may be, unless you can clothe them properly in appropriate words, and arrange words into phrases and sentences to convey exactly what you mean, your writing will be a failure. Composition is seldom the result of an inspiration. In nine cases out of ten it is the result of careful choice of words and observing the rules of grammar and punctuation. Samuel Johnson writes: "Composition is, for the most part, an effort of slow diligence and steady perseverance, to which the mind is dragged by necessity or resolution."

OTHER CHARACTERISTICS OF A GOOD ARTICLE

Use simple words easy to understand and spell. Use words instead of phrases, if you can convey the same meaning. Try to be economical in the use of words as it will also help in making your meaning clearer. Further, simple words will save the reader the trouble of looking up meanings in a dictionary, which will, more often than not, prejudice his mind against your article instead of impressing him with your literary capabilities. Be sparing in the use of adjectives and adverbs, otherwise you may end up by taking the whole thing to the superlative degree before you finish. Also avoid flowery words and phrases.

Each sentence should be a complete statement. Do not try to qualify each sentence with "although" "if" "but" and "and". Keep the sentences short, but not jerky. If you have to convey a lot, then do it in a paragraph rather than in a sentence. A paragraph should convey one complete idea. Long-winded paragraphs become difficult reading and create an impression that the writer is trying to convey too much. It is noticeable that in the writings of old authors paras are long. The modern trend is towards short paras, but some of the modern writers carry it to the other extreme by writing two-sentence or one-sentence paragraphs. This makes reading very jerky.

There are two ways of saying a thing—"I like you" or "You are liked by me". The former is direct, clear and concise in its meaning and fewer words have been used. The difference between the "active voice" and "passive voice" is obvious from this example. The active voice is personal whereas the passive voice is impersonal and insipid. The active voice reflects the personality of the writer and is positive; the passive voice is negative.

It is remarkable how few "free lance" writers realise the full value of punctuation. Editors find that ninety-nine out of hundred articles received require correction, at least for punctuation. The main faults are in the use of commas, semicolons, colons, dashes and brackets, and carelessness in writing and in correction. Let us consider the main rules of punctuation.

The full stop, colon and semicolon separate statements. A full stop separates two complete statements, whereas a semicolon shows a link between the two statements as for example: "During the first days of its existence an infant must be made to live by rule; suffering will be its eventual fate if it responds to no discipline." The colon is somewhat different as it shows one statement leading to an-

other, for example: "Of all this we are made: our works of art, our movements, our ceremonies and our thoughts."

A comma is used to separate words or phrases which would be misunderstood. Read this: "Like these animals mentally undeveloped men children and crowds are extremely susceptible to instinctive and corporeal thinking". Now read it again with punctuation: "Like these animals, mentally undeveloped men, children, and crowds are extremely susceptible to instinctive and corporeal thinking."

In the case of two adjectives preceding a noun, if the adjectives are similar in nature, they must be separated by a comma; if dissimilar or not closely connected, a comma is not required. For example: "A strong, robust young man... A poor attractive woman..." If common conjunctions like "and", "or", "therefore", "although", "for", "nor", or "neither", join parts of a sentence they should be preceded by a comma. Introductory phrases and words like "therefore", "however", etc., should be followed by commas.

Dashes and brackets are used to separate parts of a sentence which are not essential to its meaning. Sometimes they convey the impression of the reader being taken into the confidence of the writer. Read this: "It is only by means of the constant collaboration between reasoning, experiment, and action that we can achieve, not a permanent victory—such is not the nature of things—but a moment of respite and repose beneath one of those fragile shelters which we call civilizations". Dashes also precede words used as examples, when no other punctuation is used.

THE COPYRIGHT IN AN ARTICLE

The free lance contributor of articles—even of articles of army interest to a Service Journal—is not immune from the law of copyright. Conversely, he is also entitled to protection. Therefore, it is just as well to know a little of the law. The first fact is that complete copyright is vested in the author of the writing and he alone can authorize its use. When you submit an article to an editor you offer him a licence for publishing articles in his paper only. However, you can sell your article by giving "full rights" or "all rights" to the editor. This means that you have no further claim on it, and he can do just as he pleases with it. If your article is published and the editor has not asked for "full rights" then he has received rights of first publication only. You can offer your article for further publication, but you must inform the editor that it has been published already.

Another interesting fact about copyright is that ideas and information can be made copyright only in the manner in which they are expressed. You can obtain facts from any known source and present them in your own writing, provided you put them in different form. Similarly, you cannot use phrases or sentences from the writings of another author, unless you quote them under his name as "quotations". There is nothing to stop you from using his ideas. If this was not so, not many of us would be able to complete an article. No one can carry everything in his head, and even the best of writers are reputed to be the best of readers. The mind must receive some-

thing to create more. So, do not be shy of borrowing ideas and information. It is remarkable how few of us are really original or creative! However, I must warn you that no good editor or publisher will print rehashed ideas or matter. The idea may be the same, but the aspect of development must be entirely different. This is an unwritten law of copyright. These essentials of copyright law also apply to diagrams, photographs, maps, sketches, etc.

ILLUSTRATING AN ARTICLE

The subject of photographs merits a word or two, as an article illustrated with pictures conveys infinitely more, than one without. How often have you heard it repeated that a photograph must tell a story? Yet, how few photos does one come across which do tell a story. What is a photographic story? There should be one principal subject in the picture, associated with whom there should be certain other subjects whose pose, set-up and expression convey an "idea" to the eye. No written description should be necessary to describe the idea. What is most important is that the idea should be of "reader interest". A rider galloping ahead with a spear in his hand does not tell a story; but bring into the picture a wild boar jinking from side to side for his life, and the tense pose of the rider, with the spear poised to "stick" the boar, and there is your story.

A half-tone block has to be made by the printer for each photograph required to be reproduced. Good blocks can only be made from good prints. The outline of the picture should be sharp and not blurred. Correct focussing produces sharp outline, but when making extra-large enlargements from small prints, the outline becomes blurred. There should be no cross shadows. Any other shadows should not be too pronounced to smudge the picture. Best reproductions are obtained from black and white prints with a glossy finish. Matt finish or sepia tones are unsuitable for reproduction. Size is very important in a photograph, submitted for reproduction. When making blocks, size can be reduced but not made bigger, i.e., with 6" x 4" print the printers can only make a block of 6" x 4" or smaller.

THE ARTICLE, THE PRESS AND THE EDITOR

Before submitting, the article should be typed with double spacing, on one side of the paper only. Use foolscap paper, and leave a two inch margin on the side, as the editor may want to make notes, etc., and he wants plenty of space. Double spacing makes for easier reading and correction. Type out your name and address on the right-hand top corner of the first page. Make sure that you have numbered all the pages. Type out "The End" at the end of the article.

It is better to have a separate title page with the title in blocks, your name and address, the name or pen-name under which you wish the article to appear, the number of accompanying pages, illustrations or pictures, and the total number of words. Type out the title on each page, to ensure that a page does not get separated and mixed up with other papers in the editor's office.

No covering letter is necessary. Address the editor by his designation and not by name. Typed scripts and photographs can be sent under concessional postage rates as "printed matter", if there is no covering letter. Do not roll or fold the MS or photographs.

Use an envelope large enough to take foolscap paper or to fit the size of the photograph. Write in red ink "PLEASE DO NOT FOLD" on the envelope. Enclose a stamped envelope with your name and address if you want your MS back, in case it is rejected.

CONCLUSION

I hope I have given you enough food for thought to enable you to take pen in hand and write an article on your pet subject. I would like to sum up by repeating:

You can write if you try. Look for ideas and make a list of possible ones which would make interesting subjects for articles. Make a framework. Develop your ideas by concentration and tap all sources to obtain information. Write as thoughts come to your mind; there is time enough for correction later. Cultivate the writing habit by writing a little every day. Once you learn to get into the "writing mood" ideas will come rushing to your head, as soon as you sit down to write. Write, correct and re-write. Correct and type your MSS before submitting. Photographs must tell a story, be technically sound and of the proper size. Finally, have pity on the Editor and try to help him by submitting material correctly—you will also enhance the chances of your article being accepted!

Football Originated in China

China has the honour of being the originator of football, according to Mr. Gordon Cruickshank, who wrote the script for "Focus on Professional Football", which was broadcast by the B.B.C.

Mr. Cruickshank states that the game did not have its beginnings in Scotland as was generally believed for it was played in China more than 24 centuries ago. As a game it formed part of military training.

He explains, however, that it was not football as is known today. It was played with a ball made of eight strips of leather stuffed with hair at first but later air-filled. The ball was prepared according to precise instructions which laid down that "it must not be very hard or it will bounce too much and full force cannot be used in kicking, neither must it be too flabby or you will have the opposite result and it will not travel when kicked."

A SHORT STORY

RAMI BAHURANI

"VIDYAPATI"

I WAS due to go to Oxford in 1941, but Hitler's War altered all my plans. Instead, I joined a regimental depot. Just about this time volunteers were required for the commandos. I had a little of the commando spirit in me from my childhood. I was born and brought up in the hills of Garhwal and the lore of the Himalayas and the climbing instinct were in me. I was selected for the commandos, and was in the Dieppe Raid. I was quite happy raiding the German occupied French coast, but before long I was faced with another duty. There was a shortage of British Officers in the Indian Army and being proud of the name of my father in the Garhwalis, I promptly volunteered to be posted to the Garhwalis.

No sooner had I made this decision than the picture of my childhood came to me—my father's commanding the 39th Royal Garhwalis, our beautiful bungalow in that nice little hill station, Lansdowne, and Gaur Singh, my father's orderly with whom I used to play. In his playful moods he was just as much a child as I. Gaur Singh, spotlessly turned out, in his boat-shaped black cap, white shirt, black coat, white shorts, rifle green stockings, black boots, and a Kukri slung across his right shoulder on a red sash—he thought no end of himself. Our morning walks; Gaur Singh carrying me on his shoulders and bounding down the hill, to come to a sudden stop when he saw Mrs. Martin's Gurkha Ayah. They used to sit together looking down the valley, and I knew that it was time for me to behave myself. If I pricked him with pine leaves then, I was given a couple of slaps and in great fury he would call me "Bendar!" ("Monkey!"). Of course, I was too young then to understand why Gaur Singh's behaviour changed in the presence of Mrs. Martin's Ayah.

II

The first leave I had was in August 1946. I started off up the old pilgrim road, on my way to the slopes of Tirsuli and Nandadevi. The pilgrim season had nearly ended, for it is in May and June that the route is really crowded.

I had been on the march for twelve days and had now come to a most beautiful part of the country. About a mile ahead was Pali Dak Bungalow where I was going to stay the night. I was musing on a Sadhu I had met on the road, when my attention was diverted by somebody singing far away. It was a melodious voice and had that long note which sounds so beautiful in the hills. As I drew nearer the song grew more distinct till I could catch the words. A word I heard being repeated often was Rami Bahurani. There was an old man, dressed in white woollen clothes, sitting on the Dak Bungalow wall. Below him were his cattle grazing; the tinkle of

their bells was in complete harmony with the song. As I opened the gate, the old man saw me. He stood up with the help of his stick and turned to go. I called out to him to stop.

"Good day to you," I said.

"May you remain well," he replied.

I was very pleased to have that answer, because throughout the trek I had been longing to use the little Garhwali I knew.

"You sing beautifully".

"No Sahib, I am an old man. I cannot sing, but this song is dear to me. It describes the tragedy of my house".

His lined careworn face and gaunt figure portrayed a man prematurely old, bowed down by some terrible misfortune.

"All that God does is for the best," I said, trying to console the old man.

A resigned look came over his face. "It is all very well for you to think like that, young man! You have hopes, and still have your life before you. But mine is a closed chapter, and I am a ruined man. What is there left for me?"

"Well, uncle, don't think of me as an Englishman. I have some claim to your confidence, for, I too, was born in Garhwal. My father, Colonel Sander, once commanded the 39th Royal Garhwalis. If there is anything I could do—some money perhaps....."

"You are the son of Colonel Sander? Sahib, money! What do I care for the money? I am the headman of this village. I have all the money I want. I want death. I would have put an end to my life long ago, had it not been forbidden in my religion. I must be going. My cattle have gone afar."

By now, I was so interested in him, that I was set on hearing his story.

"Stay uncle—don't go. The cattle will find their way home. Tell me your story."

"It is a long story, Sahib. It is the tragedy of my life, but I will relate it to you so that you may tell it to the Colonel Sahib.

"My name is Hem Singh. I knew the Colonel Sahib, your father, for he once came here on tour and stayed in this very bungalow. I remember presenting him with a goat. We had a 'bara tamashah' that night and danced. Ah! the good old days! Write to the Sahib, your father. He will remember me."

I was amazed at the change that the memory of old times brought about in him, and was pleased at the thought that my father was still well remembered in these remote parts.

The sun was slowly setting behind the snow-capped Himalayas, lighting the peaks with a red flame and then giving them a golden halo; the pine tops taking up the glow before the shadows fell. Down from the fields womenfolk were now returning home, each with her bundle of grass poised gracefully on her head. As they came, I could hear the low humming of the song the old man had sung, Rami Bahurani.

"Let us go in; we shall be warmer by the fire," I said.

There we sat by the fireside, I, impatient to hear the story. There was silence between us for some minutes and then I said, "Hem Singh Ji you have my attention. Please tell me your story".

III

The old man looked intently at me and then cleared his throat and began his tale.

"I had a son whom I named Prem Singh. He was the light of my eyes. I sent him to the village school; clever lad, he was, and to this day the School Master speaks of him with pride. As he grew up he developed into a tall, handsome, brave man. I was as proud of him as any father could be of his son. In those days, I had three buffaloes and two cows. Prem Singh could drink four seers of milk a day. After leaving school he took to grazing the cattle. He loved roaming in the hills, and singing all day long. He had a very sweet voice and the hills resounded with his songs. He could also compose poetry, and recite it with great charm.

"Rami, Fateh Singh's daughter, grew very fond of his songs. Her voice also was clear and sweet, and those who heard her stood well-nigh spell bound: even the cattle would stop to listen.

"Before I had so much as guessed the friendship between them, Rami and Prem were deeply in love. Fateh Singh was the headman of Village Rampur, two miles away. We were great friends and we would ask each other to our celebrations. This time when he sent a messenger to me to come to Rampur, I prepared myself wondering what celebration this would be. This was to be no merry-making. Taking me into the inner room, he closed the door and said, 'Have you heard of your son's conduct?' You should be ashamed of him. This is how he has repaid me for your friendship. Do you know what everybody is saying about Rami and Prem? There may be no truth in it, but my Rami is young, too simple, too innocent. When her mother warned her not to listen to him singing, she replied that she could not help it, as she was in love with Prem. Hem Singh! we have been great friends all our lives, and you must save my honour. Can you imagine how much it pains me to hear what my arch-enemy Dushman Singh has been saying about me?—'How can he control the men of the village, when he cannot control his own daughter?'

"I heard him out and then asked him a point-blank question. 'Fateh Singh! Will you grant me a favour? I have been wanting to tell you, but did not find a suitable occasion. I want Rami to be my daughter-in-law. It will be a most suitable match. It is just as well that Rami and Prem like each other; it helps a little, though we could

have married them even if there was no love between the two. Rami will be a jewel in my house; our friendship will turn into relationship, which is a much stronger bond. You will be glad to hear that their stars tally perfectly; and according to the village priest the combination of stars is such that their name shall remain immortal. Grant me my request.'

"By this time Fateh Singh had recovered his composure; the twinkle in his eyes which was so characteristic of him had returned. 'What better match could there be?', he said. 'But Rami's young age is the only difficulty, for she is only fourteen. She is too young, and I think Prem would do well to wait too. He is only eighteen.'

"I think likewise', I said, 'but if you approve of the marriage, their age is of small matter. What I suggest is that the marriage should be celebrated at the next auspicious day, and then they should live away from each other for the next two years. Agreed?'

"Agreed!', replied Fateh Singh, and we embraced each other.

"The wedding was the finest ever seen in this part and to this day it is remembered. It was a union between two big houses and Fateh Singh was very generous and almost extravagant with his hospitality and the big dowry he gave Rami. We had the most learned Pandits to solemnise the marriage and it was a picture to see the two performing the marriage rites—the most sacred ceremony—and so Rami became the jewel of my house. But when Prem heard that Rami was to leave soon for her parents' home and he was not to meet her for two years, he was wild. He gave vent to those stupid ideas: 'My wife, my home. Do what I please. What business is it of any one else?'

"I said, 'You are my son. Your wife is my daughter-in-law. I know what is best.'

"After three days Rami left for her father's house, and the same night Prem left home. I made enquiries everywhere, but there was no trace of him.

"A year later I received a post card from the military department of the Sarkar: 'No. 8088 Rifleman Prem Singh, 2 R. Garh. Rif. reported missing'."

IV

Romantic and ardent lover that he was, Prem Singh left home because he was to be separated from his beloved for two years, and was not to see her even. He had a grievance against his father for subjecting him to such a restriction. In his anger he decided to leave home, and give no news of himself. To Rami he would write, but no, he won't, because his father would know about his whereabouts. He wanted to punish the old man, just as he had punished him, and the least he could do was to keep him anxious about his welfare, for he knew that his father loved him very much.

Prem Singh, for fear of being overtaken by his father, walked the whole night. He had no idea where he was going. All he wanted to

do was to get away from his father, that hard-hearted man who came in the way of his heavenly romance. Next morning, he came to a 'Parao' where he saw two officers and a party of young men. One officer was writing down something, and the other was placing an instrument on the chests of the young men. On a notice board was written 'Fauji Ki Bharti'. "Now my father won't catch me", thought Prem Singh, and joined the party.

Before long he was on the square at Lansdowne. The hard work and military discipline was at first irksome to him, but he soon began to like it. His physique developed and he shaped into a bright young sepoy. He had no time to think of home but in his slumbers he dreamt of Rami—Rami, the goddess of his heart.

Ten months at Lansdowne and he was drafted out to Malaya to join the 2/18 Royal Garhwal Rifles. He hoped the war would be over soon and he would be back with Rami. So whatever the future may hold for him, there was still something to look forward to. He joined the Battalion in November 1941 and before he had become quite used to Malaya and the Malayan jungle, in such contrast to the pine covered hills of Garhwal, the Japanese invasion started. The Battalion fought a valiant rearguard action right back to Johore Bahru against heavy odds. When the Battalion was withdrawn for rest and reorganization it could muster only about one hundred men. Prem Singh was not among them and nobody knew what had happened to him.

Prem Singh's Section had been ambushed and completely wiped out. He was wounded in the leg and was the only one who survived. He was sent as a P.O.W. to a Japanese hospital. His wound became septic and he, along with other Ps.O.W., was evacuated to Siam. As the irony of fate would have it, he entered Siam, the country of the "death railway", on the day of his wedding anniversary.

It is not necessary to relate what happened during these three long years of captivity. It is a story full of horrors and had better not be related. Suffice it to say that Prem Singh had dysentery and a malignant type of malaria, the onset of which turned his body blue.

Various attempts were made by the Japanese to win over Prem Singh and to employ him as a Fifth Columnist, but he was made of a different fibre. He suffered all the hardships, privations, hunger and disease, and, in his weaker moments the only source of moral courage was Rami. The picture of his wedding and the religious ceremony that "I shall be true to thee and to myself", were too deeply imprinted in his mind to be effaced by physical tortures.

And there was one redeeming feature; when it was all over and he returned home, he was going to re-enact the popular story of a husband who returned home after long years in the guise of a Sadhu and put to test the faithfulness of his wife. "Rami! There is no doubt, you are true to me, but I will become the Sadhu just to make my home-coming more interesting." Dreams, what sweet dreams, and so the days of Prem Singh the prisoner went by.

V

Hem Singh looked at me, as if to see whether I was listening or not. I was all attention, for, besides the story being so interesting, his manner of relating it was so earnest, so deliberate. The fire was burning low; he stirred it up and blew into it, and then addressing me said, "Sahib, you are a clever son of a clever father. You understand the story, do you not? Do stop me when you find it difficult to follow."

"I have only one point to clear up. Rami was the name of your daughter-in-law. What is Bahurani?"

"Bahurani, means daughter-in-law. Really speaking 'Bahu' is quite enough, but to pay respect to the 'Bahu', we suffix 'Rani'. Rani is the wife of a Raja."

I understood it fully now. It was the same idea prevalent all over India. The man, lord and master—the woman, the worker. And yet, the names of Hindu women generally finish with the word 'Devi', which means goddess.

Hem Singh continued, "Do you know what 'Suttee' means? In ancient times it was a custom according to which the young childless widow joined her dead husband on the burning pyre. The original idea was that a wife was so much in love with her husband, that after his death life for her was not worth living, and therefore it was better that her life ended with his. Originally it was applicable to those couples whose love was perfect, but afterwards it degenerated into a bad custom, and every young widow was expected to become a 'Suttee.' Imagine her being forced to burn alive!

"Horrible! Cruel! Inhuman! It was just as well that it was stopped.

"But, believe me, to have a young widow in the house is a dangerous thing. There is always the danger of a black mark being put on the name of the family. Do you know, people in the village are already talking about the widow of poor Rai Singh? Her father was in need of money and he sold his daughter to Rai Singh who was suffering from the cursed disease Tuberculosis. He has not been dead three months, and there is already a scandal.

"Good thing 'Suttee' was stopped, but you cannot stop those who do not wish to live after the death of their husbands. That is what Rami did. That is why we sing of Rami, that is why the name of my house is known all over Garhwal, that is why I feel proud. She has immortalized her name. 'Rami! when we meet, I will worship your feet.'

"One mile from here down the road is a small pass. Rami had gone to weed the 'koda' * field, and was singing:

'Jo Tan Lage So Tan Jane
He alone knows who suffers pain

*Koda—Millet.

Pir Paraee Aur Ko Jane
Who else knows another's pain.

"At that time, a Sadhu stopped to hear Rami sing. What follows is the song of Rami Bahurani. It is the dialogue between the Sadhu and Rami.

"What is your village? What is your name?"

"Rami is my name. My village is Pali and I am the daughter-in-law of the rich man there, my parents are Rawats. My husband has been away for many years. I have not heard of his welfare."

"Come, Rami Bahurani, under the shade of this tree we will talk over our troubles. Why do you cry and waste your youth?"

"Be careful! You pretender! You, blot on Sadhus! If you utter another word I will curse you. You are the Sadhu of this 'Kaljug!' * and Rami ran away.

VI

"In the meantime, what was happening here at home? The sad news of Prem Singh's being missing was a great blow to me. I did not break the news to Rami, but she somehow found it out. It was a most difficult situation. In the Hindu religion a woman is either married or a widow. Our learned men who wrote the holy books failed to foresee an occasion when the husband would be 'reported missing'. What was Rami's status in our society? The wise men among us were to decide whether Rami was to wear a widow's dress or not. Rami went through a very difficult time. Her instinct said, Prem would come back, the village opinion said—not a hope. And these village women—the only topic they had was about my Rami. In spite of the consensus of opinion the village Panchayat decided that Rami should not as yet be classed as a widow.

"Years went by. The women said: 'Now that he has been dead for one—two—three—four years will he return?' Rami said that he would; 'may be next year, may be ten years hence.' Rami, now, was not the gay Rami of fourteen years. She was a sad figure. Her gay songs became songs of pathos—terribly sad.

"Rami came home with a bundle of grass on her head, and saw the Sadhu sitting on the verandah. Her mother-in-law told her that the house had been made pure by the visit of a great Sadhu, and the best food was to be cooked. Rami said that he was no Sadhu and should be turned out of the house, and she related the story of the morning's happenings.

"The Sadhu was inside the room. After about half-an-hour I heard the sound of mule's bells approaching the village. They were six well loaded mules.

"Is this the house of Headman Hem Singh?", shouted the mule-man.

"Yes, it is," I replied, 'but it is no camp for mules.'

* Kaljug—Present Age, believed to be a bad period.

"Just then, shaven and in clean clothes, somebody came from inside the room, and touched my feet.

"Rama's home-coming after fourteen years of exile could not have been so well celebrated, as I celebrated, in my little way, the home-coming of my Prem. In keeping with the Garhwali custom, Prem Singh had brought home all the usual things that a prodigal son would bring. There were clothes, there were sweets and there were dried fruits. Not one mule load, not two, but six mule loads. The sweets were distributed in all the villages within five miles and everybody said that Prem Singh had discovered a Gold Mine in Malaya.

'The clothes were chiefly for Rami. The love of Rami and Prem should be written in golden letters. They lived a life of great happiness for three months. Alas only three months! Prem's leave finished and he was to rejoin the unit in Bengal. Rami insisted that he was not to go. Prem said 'hukum was hukum' and he must go.

"Preparations were being made for Prem's departure and Rami was in tears. A sudden illness caught Prem. It was a relapse of some cursed Malayan disease. His face turned blue, and his whole body became stiff. He said that he had it in captivity before, and was cured in hospital. Alas! We had no hospital and it was too far to send him to Lansdowne. His disease was beyond cure, as the biggest 'Vaidya' * in this area had not ever seen such an ailment. Prem Singh died leaving me broken hearted and ruined.

"Prem Singh's coffin was being prepared, and Rami was missing. We thought she must be mourning in some dark corner of the house and left her alone.

"At the confluence of two rivers, four miles down below from here, is a burning ghat. When we arrived there Rami's body was resting on a fallen, half submerged pine tree."

Hem Singh stood up suddenly and was gone. A little later in the stillness of the pitch dark night I again heard the long note of Rami Bahurani.

My head reeled with Hem Singh's story the whole night. I made an early start next morning and I had not gone far when, as the rays of the sun came out from behind the hills, I saw women cutting grass and the hillside was echoing with that pathetically romantic melody Rami Bahurani.

I am now back in civvy street, teaching small children. I often wonder, and I think, I wonder in vain, if amongst them will be the like of Rami and Prem. I write this story as a tribute to that great country India, to that ruggedly beautiful and sacred nook of the Himalayas, Garhwal, to those simple folk the Garhwalis and to that splendid regiment—The Royal Garhwal Rifles.

* Vaidya—Ayurvedic Doctor.

ARMY NOTES

GUARD'S BRIGADE

Army Headquarters have announced the intention of raising a Guards Brigade for the Indian Army. Details have not yet been worked out, except that there are going to be three battalions, probably to be affiliated to the Rajputana Rifles Centre at Delhi Cantonments to start off with.

It is hoped that with the formation of a Guards Brigade, a little more of the pomp and ceremony of the old "piping days of peace" will be re-introduced into the Army. The Guards Brigade will ensure that the ceremonial touch will not completely fade away from our independent India. Not only will the Guardsman lend some of his glamour to a service which would otherwise lose much of its prestige and standing during any long period of peace, but he will also prove an attraction to the would-be recruit whenever the recruiting campaign tends to lose its appeal to the masses. The Indian villager is just as susceptible to a colourful display of ceremonial grandeur as his counter-part in any other country.

The Guards Brigade will also be the first formation to be raised on an all-class basis. It is the intention to "size-off" the battalions according to height uniformity, but all classes in India will be able to join one or another of the battalions. The Journal wishes all good luck to those officers and men who are going to set about building up a Guardee tradition for our country.

THE PASSING OF KHAKI

It is perhaps with a touch of regret that most old soldiers will view the passing of khaki from the Indian Army. Khaki took the place of the old "Red Coat" in India shortly after the Mutiny years, and soon spread to the European countries via the Middle East. For nearly a hundred years since then the word "khaki" has symbolised the profession of arms.

The present Olive Green which the Indian Army is adopting, came as a result of much experimentation in the jungle war against the Japanese. The present dye however is not fast, and if the decision to adopt Olive Green is to stand, then our scientific experts of the Technical Development Directorate will have to get down to it and produce a fast shade. Unfortunately, it is only too often these days that one sees army personnel walking about in mud-green uniforms which have obviously not been able to withstand the hardships of the dhobi-ghats!

MERGER STATES FORCES

The States Forces of Baroda have also now been integrated into the Indian Army, according to the latest announcements in the Press. These units will make a substantial increase to the existing list of States Forces which have already merged into the Indian Army—i.e., those of Himachal Pradesh, Cutch, Gujerat and Kolhapur. Officers and other ranks are made to undergo tests according to Indian Army standards, and those found suitable are regrouped into complete units in the Indian Army, thus retaining much of their former identity and traditions. Even those who cannot be eventually absorbed, are offered attractive pensionary terms or mustering out concessions.

This step will surely instil confidence in the government's policy with regard to the States Forces. Personnel of all States Forces have quite naturally been anxious about their future prospects. Union States and those States which have still retained their former identity, will be reassured that whatever the future may hold for the States Forces, the interests of individuals will be safeguarded as far as possible.

SUBSTANTIVE PROMOTIONS

Army officers, and especially the more senior amongst them, are anxiously awaiting the government's policy regarding substantive promotions. The present regulations admit of substantive promotion only up to the rank of Major, (or to Lieut.-Colonel in the case of the KCIOs). After that, promotion is by selection only. No such promotion has been made and there are today senior generals holding most responsible posts whose substantive ranks are only Major or Lieut.-Colonel. It is obvious that some sort of policy will soon have to be formulated so that the interests of officers do not suffer.

In this connection it is hoped that the Indian Army will follow the lead of the British Army in making the rank of Brigadier a substantive one. At present the next substantive rank above Colonel is that of Major General. The rank of Brigadier is held to be an appointment only and not a substantive promotion. This is obviously an anomaly, for the command of a Brigade is one of the key appointments in a modern army. The command of sub-areas, the post of most Directors in Army Headquarters, also carry with them the all-important rank of Brigadier. Yet regulations prevent an officer holding any of these appointments, from making any headway up the "substantive promotion ladder", not to mention the pensionary benefits.

Of course the drawing up of regulations for substantive promotions entails some major problems which have to be overcome—the fixing of a Peace Cadre of officers, the length of service (or lack of it) amongst the "middle-piece officers", the size of the army, and so forth. But whatever the difficulties, in the interests of the service some sort of decision, even if an interim one, will have to be taken soon.

COLONELS AND COLONELS COMMANDANT

In a recent letter, the Military Secretary has announced that senior Indian serving officers could be appointed as additional Colonels in Regiments in which retired British officers have been retained, because the latter are seldom in a position to perform the duties to the same extent as serving officers.

It has also been decided that a senior Indian serving officer may be appointed as Colonel Commandant/Colonel of up to 2 Corps/Regiments—one in his own area and one outside. Serving officers of the Indian Army of the rank of Brigadier (Acting, Temporary or War Substantive) are eligible for these appointments.

The following is a list of senior serving Indian officers whose appointments as Colonels/Colonels Commandant of Regiments/Corps have already been approved :—

Gen K.M. Cariappa OBE

.. Col, Rajput Regt ; and Col Comdt of the Corps of Indian Signals

Lt Gen Maharaj Shri Rajendrasinhji
DSO

.. Col, 2nd Royal Lrs ; and Col Comdt of RIA

Lt Gen Thakur Nathu Singh	.. Col, 9th Gurkha Rifles
Lt Gen S.M. Shrinagesh	.. Col, Madras Regt ; and Col Comdt of RIE
Maj Gen G.S. Dhillon	.. Col Comdt of RIASC
Maj Gen Sardar B.S. Chimni, OBE	.. Col Comdt of RIASC
Maj Gen Sant Singh	.. Col, Bihar Regt.
Maj Gen H.L. Atal	.. Col, 18th KE VII's Own Cav.
Maj Gen T.S. Bal	.. Col, 7th Light Cav.
Maj Gen S.P.P. Thorat, DSO	.. Col, Mahar Regt.
Maj Gen D.S. Brar OBE	.. Col, Mahratta L.I.
Maj Gen J.N. Chaudhuri, OBE	.. Col, 16th Light Cav; and Col Comdt IEMB.
Brig K.P. Dhargalkar, OBE	.. Col, 3rd Cav.

Royal Navy Prize Money

The British Admiralty have announced that they are ready to receive applications for Royal Navy Prize Money, Campaign Stars and Medals. Members of the Navies of other Commonwealth countries are not entitled to these awards.

With regard to India, the amount of prize money to be allocated to undivided India has not yet been decided and further the ratio in which that amount is to be divided between the Governments of India and Pakistan has still to be agreed upon. On this point the Government of India will issue a separate announcement in due course. The present announcement does not refer therefore to serving members or to former members of the R.I.N.

Claims by former members of the Royal Navy and Royal Marines, etc., and by the next of kin of the deceased persons must be made in prescribed form and sent direct to the Director of Naval Accounts Admiralty, London, S.W.1. Copies of the requisite forms may be obtained from the office of the U.K. High Commissioner, 6, Albuquerque Road, New Delhi.

Prize money is payable to members and former members of the Royal Navy and Royal Marine Forces, crews (including certain civilians) of H.M. Ships and members of the Royal Artillery who performed 180 days' service at sea (as defined in the Regulations) between the 3rd September, 1939 and the 2nd September, 1945, and whose claims are received within 12 months of this announcement. Persons killed in action, etc., at sea qualify irrespective of length of sea service.

Members and former members of the R.A.F. are not eligible for Royal Navy Prize money (unless they were previously members of the Royal Navy and Royal Marine Forces who had qualifying service).

REVIEWS

THE SECOND WORLD WAR

MAJOR-GENERAL J.F.C. FULLER, C.B., C.B.E., D.S.O.

Eyre and Spottiswoode, 21/-

WAR is no more than a lethal argument, its object being to implement a profitable political policy. It should, therefore, result in profit and not in loss. Slaughter and devastation, which are merely its regrettable accompaniments, should be restricted by this sole condition. If the enemy's country is turned into a desert, the advantage for the sake of which the war is waged would be lost altogether and for ever. Of such a class was the "strategic bombing" inaugurated by Mr. Churchill. It was not only morally and militarily wrong but also politically suicidal—this is one example of the way in which Major-General J.F.C. Fuller, author of *The Second World War*, persuades his reader to realise some of the mistakes perpetrated by both sides in the heat of one of the most gigantic of human conflicts.

General Fuller has over two dozen military books to his credit. *The Second World War, 1939-45*, is the latest. It is an analytical study of the strategy and tactics employed by all the belligerents. True to his reputation of being a clear-headed thinker, General Fuller, in this work, subjects the Allied and enemy tactics to the severest test of reasoning. The conclusions that emerge from his objective examination of the data so far available are profoundly interesting.

Few will feel inclined to disagree with the author's strictly logical assertions, that since ideas cannot be killed by bullets, ideological wars are nonsense; or that, since a cad will fight like a fool and criminal and will not stick to his promise, it is more profitable in the long run to fight like a gentleman and have a gentleman's peace than to fight like a cad and have a cad's armistice. For, the former is likely to be more permanent and less fragile.

The strategical background against which General Fuller discusses World War II is Britain's foreign policy. War being an effort to implement a foreign policy, General Fuller argues that Britain's war strategy ought to have been directed to that end, and that only. The end he describes as the maintenance of the balance of power on the Continent. The two great Continental powers constantly disturbing this balance are Germany and France. When one of them gets too strong, the other has to be supported and the strong one is to be reduced in strength—not too much, but just enough to restore the balance. If the war goes past this point and either permanently cripples or annihilates one of them, then the balance is for ever destroyed. Such a war not only defeats the purpose for which it is waged but is a senseless squandering of the nation's war potential and a crime against humanity.

Seen against this background, the war strategy of Britain stands out as a colossal blunder. This is due to her pursuing a defective war policy. Whereas Britain's war-goal should have been the curbing of Germany's military might only to the extent of reducing it to the level of that of France, Britain from the very start set up an ideological goal of annihilation of Nazism. Since Nazism could not be separated from Germany, this meant the annihilation of Germany and, therefore, an almost permanent destruction of the balance of power. This involved also a permanent disturbance in another Continental balance, namely, a combination of Germany and France supported by Britain, against Russia. The elimination of Germany brought

about the emergence of a strong Russia to which the doctrine of balance of power cannot be so easily applied. Therefore, by fighting this war, Britain has injured her own interests—more than she would have done by refraining from the war or by negotiating a peace with Hitler at a stage when it was most profitable for her to do so.

After discussing the tactical theories and the strategical framework in which the war has been fought, General Fuller proceeds to discuss the application of these to the actual operations. Beginning with Poland, he confirms the popular view that the German campaign was essentially an attack by paralysation. Speed more than fire power, and confusion more than destruction, were the main ingredients of this new tactics. From this he draws an important corollary—that in these days of mechanised attacks, linear defence is out of fashion; because in the linear formation the defender is like a man with outstretched hands facing a boxer in a fighting position, unable to draw his own hands in to guard or hit. Such was the case with the Maginot Line, though the author does not say it in so many words. It is typical of him that after putting the reader into a logical line of argument he lets him rush to the irresistible conclusion.

The author is not merely critical of the mistakes made by the Allies. Considering the mistakes of Hitler he names, as the most important one, his misalliance with Russia. Political geography of Europe was so set that if any new territory were to be acquired it could only be at Russia's cost. For such a policy there was only one possible ally in Europe. That was England. General Fuller, therefore, contends that, in the interest of Germany, Hitler should have considered no sacrifice too great for gaining England's friendship. He should have eschewed or temporarily suspended his colonial, naval and industrial expansion so as to avoid competing with Britain. It follows from this that all of Hitler's post-Munich diplomatic triumphs were illusory, in so far as they tended to alienate the goodwill of England.

Another great mistake of Hitler, according to the author, was that the Fuehrer failed to see the time and the direction of striking the proper blow at Britain after the fall of France. The vulnerable point in Britain's defences was Egypt. If Hitler had bent all his energies into seizing this point, North Africa would have passed into Axis hands, Spain would have been forced into the war and Turkey could have been pinched out. The road to Russia through Armenia and Georgia could then be opened and America might have thought it too late to come to Britain's assistance. Reduced to such straits, Britain might have been willing to enter into peace negotiations.

Enlarging on this important turning-point in the war, the author discusses at length what he calls the line of operations as distinguished from the line of march. He also discusses Hitler's failure to see this difference, even after his military operations had, like a compass needle, forcibly swung back into the direction of Egypt resulting in the North African campaign.

Considering the war adventures of the R.A.F., General Fuller ruthlessly criticizes the British craze for strategic bombing. As an example he quotes the use of British aircraft in the Greek Campaign at one of the most critical moments. Instead of employing all the machines to assist the land force which was fighting a hard and losing struggle, the R.A.F. tried to halt the German advance by bombing the railway station of Sofia, about one hundred miles behind the line of operation. Needless to say, this did not materially affect the German advance since all German movements were by road.

In the same strictly logical strain General Fuller continues to discuss the Japanese war policy and its initial successes and failures. Discussing the attack on Pearl

Harbour, he observes that while Japan read her strategic positions all right, she ignored the psychological side of the strategy. The source of a nation's fighting power is, ultimately, the people's will and determination to fight. Many a war has been lost because the statesmen at the helm were unable to galvanise the popular will to fight. An average American was as a rule apathetic towards the question of entry into the war. Japan, by a grievous blunder, struck at the pride and self-respect of the average American. "Her inexplicable stupidity", says General Fuller, "was that by making the Americans the laughing-stock of the world, she struck more at their dignity than at their ships. Like Adam and Eve, the Americans discovered that they were naked; their eyes were most unexpectedly opened and they suddenly realised that they had been living in a fool's paradise of their own making". This is how the penetrating logic of the author x-rays the conduct and moves of the men who were playing during the war-years with the destiny of entire humanity. Another point which the author has been trying to drive home in different parts of the book is that the tactics of modern warfare consist not only in the application of military force at certain points at certain times, but in the management of several different forces under different circumstances subject only to the one stipulation, that these forces help to implement the aim for which war is being waged.

The style in which General Fuller writes is known to all the military world. The moral strain in his writings is the new outlook which is the only hope of a nearly lost civilisation. The book is the product of mature experience and is written in a way so as to make it intelligible even to the lay reader. For, hereafter, war is not only the concern of the military men but of the entire population of every nation of the globe.

P. C. B.

A SOLDIER'S SAGA

GENERAL SIR AYLMER HALDANE, G.C.M.G., K.C.B., D.S.O.

Blackwood, 21/-

This autobiography by a distinguished soldier makes delightful reading, and gives us an excellent picture of the comfortable conditions of soldiering in the Victorian and pre-1914 years.

Aylmer Haldane, scion of an ancient Scottish family, was born in Edinburgh in 1862, and entered the R.M.C., Sandhurst, in 1881. On passing out, he was posted to the regiment of his choice—The Gordon Highlanders—and spent the first 12 years of his service in home stations. As the author points out, service at home in those days was most uneventful, home battalions being little more than schools for young soldiers who were being prepared for overseas battalions.

In 1894, he was able to work an exchange with an officer in the first battalion of the regiment in India, and then began a career which was to experience eight campaigns in various theatres all over the world. In India he took part in three Frontier campaigns, including the Tirah Campaign of 1894, in which he was awarded the DSO.

In 1899 he left for the South African war, and was involved in the Armoured Train Disaster at Chieveley, as the result of which he was captured by the Boers, Winston Churchill being taken prisoner on the same occasion. The author draws a veil of mystery over his first attempt to escape, when Churchill was the only member of

the party who got away. The second and successful attempt makes a thrilling narrative, and was subsequently published by the author in book form.

After a short spell at the Intelligence Division at the War Office, Haldane was selected to accompany General (afterwards Field-Marshal Lord) Nicholson as an attache to the Japanese Army during the Russo-Japanese War in 1904. On return from this theatre, he was given command of an infantry brigade after a short spell of the Staff. He led this brigade during the opening phases of the 1914-18 War, and was promoted Major-General in October 1914 for distinguished service in the field. He later commanded a division and then a Corps, and had the distinction of serving right through the war in command of troops.

General Haldane criticises the policy of the "limited attack" very strongly, and blames this tactical error for the heavy and insensate casualties which occurred in the war. He also felt that the high proportion of Cavalry officers in high places was in no small measure responsible for much of the initial mishandling of troops.

After his return from the occupation forces, he was given command of the Mesopotamian theatre—which was a most unpopular campaign. On return from Mespot, he was awarded the GCMG and promoted full General, but placed on the retired list after reaching the age of 60. In the 1939-45 war, he earned the Defence Medal for his services as an Air Raid Warden—which, the author thinks, was in some ways more deserved than his earlier decorations.

The book is most entertaining, and although there is little attempt to present the various campaigns in which he took part, in any form of perspective, his narrative abounds with numerous anecdotes. An engaging feature right through the book is the author's many contacts with important personages both in Civil and Military appointments.

D. K. P.

THE WELSH GUARDS AT WAR

MAJOR L.F. ELLIS, C.V.O., C.B.E., D.S.O., M.C.

Gale and Polden, 25/-

This book deals with the story of the Welsh Guards during the Second World War, written by a Welsh Guardsman who served with the regiment throughout the war. Major Ellis was particularly suited to chronicle the history of the regiment, not only because of his wide civil experience, but also because he had served with the regiment throughout the 1914-18 War, in which he was awarded the DSO and MC.

The book is written in two parts. The first part is a straight history of the Regiment's activities in the war, with a background of contemporary history. It describes in general the conduct of the war on the European and African fronts, tied in with the story of the three battalions. The first part of the book therefore gives the reader an excellent perspective. Too often, in the writing of regimental histories or personal memoirs, the larger picture is neglected, and the reader is somewhat lost in a mass of "local colour".

The second part of the book consists of detailed accounts of the principal actions in which battalions of the Regiment were engaged, and of deeds which helped to decide the issues involved. The 1st and 2nd battalions played a distinguished part

with the BEF in France in 1940. The 3rd Bn. took an active part in the North African Campaign, ending up with the Battle of Tunis. It then went on to continue in the hard and bitter fighting from Sicily to North Italy. The 1st and 2nd Bns fought again with the BLA, winning fresh laurels in the Battle of Normandy, and eventually led the Guards Armoured Division in its historic advance to Brussels and into the heart of Germany.

An appreciative foreword has been written by Field-Marshal Lord Alexander of Tunis, under whom the 1st Bn. fought in France and the 3rd Bn. in North Africa, and Italy.

The book has been admirably presented and extremely well written. It contains 10 coloured plates and numerous photographic and diagrammatic illustrations. The maps are excellent, and well co-ordinated. It is a book well worth having in any library—a wonderful story, which contains tactical as well as human interest.

D. K. P.

A DISTANT DRUM

CAPTAIN J. PEREIRA

Gale and Polden, 21/-

A very recent publication, this book contains the War memories of the Intelligence officer of the 5th Bn. the Coldstream Guards. In his foreword, General Sir Charles Loyd, the Colonel of the Regiment, has paid a marked tribute to the author, who fought with the battalion from Normandy to Cuxhaven.

The story begins on the eve of the Normandy invasion, and continues with its personal sketches of the battles fought in Normandy, Brussels, Belgium and finally in the Rhineland and the heart of Germany. Although little attempt is made to reach beyond the limits of a purely personal narrative, the book makes interesting reading and is well worth study. There are several photographic illustrations and three carefully presented maps.

D. K. P.

CORRESPONDENCE

METHODS OF INSTRUCTION

“ FORWARD ”

THE writer must try to make plain that he is in favour of much which he takes to be included under the phrase “ methods of instruction”. There is no doubt that in the past, both in the Indian and in the British armies, there was an undue tendency for men to be taught—or to have subjects drilled into them—by uninspired recitation of passages from uninspiring manuals and by mechanical repetition of movements. Training was attempted without proper ground facilities, with makeshift and often imaginary equipment, and without adequate time. Enough thought and hard work was not devoted to its preparation. And there was a tendency for all subjects to be begun each year from the beginning as though the private soldier was re-born as a recruit at the end of every collective training season. This state of affairs was by no means universal ; but it was prevalent enough to implant in the public mind a superstition concerning the army’s training methods which was far from flattering.

“ Methods of instruction ” seek to improve on the old system by preaching what are really very simple and common-sense exhortations :—

- (a) Instruction must be as carefully planned and prepared as any other task. In fact more so because, as every soldier knows, it is possible to approach many a task without any preparation and to complete it with no greater inefficiency than the waste of a few hours’ time of men who have to be paid anyhow.
- (b) Instruction must be made to appeal to as many of the senses as possible. The ear, or the eye as applied to the printed page, must not be relied on as the only medium.
- (c) Instruction must be given in doses suited to the capacity of the recipient. Certain psychological factors can be simply stated and should be given consideration when drawing up programmes.

Suitable methods arrived at by thought and experience are prescribed for the presentation of films, demonstrations, lectures and models, and for conducting and marking tests. Study has been given to the grading of pupils, interviewing, encouraging, and reporting on them.

The above very short summary may seem redundant to many readers as being general knowledge. It has been inserted by the writer because he himself, having seen a film and listened to a few lectures on the subject, still found himself very vague about everything but the intention. It was plain that instruction could be very bad, and it seemed that some persons had studied the problem very carefully and evolved detailed methods which would produce much improved results.

But what in detail were these methods, and how could a tyro learn them ?

The writer is a studious type brought up in a technical corps. He has an old-fashioned habit of seeking knowledge from books and no great liking for the cinema. He felt that the lectures and the film he had seen merely emphasized the problem and hinted at a solution for some types of instruction. He hoped that some book might

soon be published which would spare him the unwelcome task of thinking the matter out for himself and might prevent his adopting methods which the psychologists or statisticians might show to be wrong. He was disappointed (though now, at last, it is believed that the War Office is issuing a pamphlet). So he persuaded the "methods officers" whom he found installed at one or two army schools to give him any papers or notes which they had.

It was at this point that he got his first serious shock.

The notes and home-made "books" which were thus obtained seemed to contain a horrible jumble of pseudo-psychological and statistical jargon written for the most part in appalling English and interspersed with strange diagrams and similes. The editorial style was a combination of comic strip and less reputable advertising matter. The writer particularly remembers a specimen lesson which appeared in the notes at both schools and so no doubt came from the fountain-head. This dealt with the construction of a wooden door and had obviously been drawn up by someone who knew a little about doors but had never made one himself nor probably had ever had charge of such an operation. Little definite could at first be extracted from these notes beyond what was available from the film and lectures, but on closer examination certain recommendations about the arrangement of programmes and lessons, the use of blackboards and diagrams, and about tests and marking systems did emerge together with other useful hints.

Two things seemed, and still seem, to be wrong with the application of a very excellent theory.

The first is not perhaps a very serious defect. It seemed to the writer that "methods of instruction" were being built up as a secret cult known in detail to initiates only. What could quite well have been imparted to large numbers of officers and N.C.Os. by a small illustrated book was in fact being dealt with by the old methods so dear to the "experts" in such simple matters as the use of the rifle. "Teams" were formed to travel about the world and open cells in the various Commands. Disciples were then sent to army schools where they were able to frighten the other instructors and the students. A very few vacancies at rare courses were given to ordinary soldiers. Much good was done. But unrestrained worship of the cult led to strange and distracting evolutions with screens and blackboards, to a lot of jargon about five-point-scales and the like, and to a tendency to treat all students on the lines of conscripts from the very lowest mental groups.

The second and, it is contended, the really serious defect is the uncritical attempt to apply "methods" in all its violence to all forms of instruction including the education of cadets in serious subjects requiring sustained study.

The writer has already emphasized that the introduction of well-thought-out methods to the instruction of recruits and the proper planning of lessons and programmes is essential. This needs a lot of detailed thought, and if the experts would give the ordinary soldier the benefit of specific and detailed advice then their work would lead to still greater advances. But if they confine themselves to disseminating general principles and a few tricks of teaching then there is a proved danger that methods designed for teaching simple skills in the use of weapons, field-craft, minor tactics and so forth may be applied to subjects requiring thought and study. This is not to imply that lessons in such subjects do not need preparation, that diagrams, maps, films and so on cannot be used where appropriate, or that tricks of presentation to fix particularly important points in the students' memory should not be employed. It is merely to point out that there is no easy road to knowledge of such subjects as military law, double-entry accounting, the theory of radar, or the history

of the conduct of war. These and similar subjects need steady application to books and must be learnt as well as taught. Knowledge of such subjects cannot well be tested by the methods of elementary intelligence or group tests.

The writer feels that the army may be going slightly methods-mad. If cadets and students at army schools are taught solely by comic-strip methods; if instructors feel that they are not conforming to policy unless they issue illustrated programmes, fill their precis with illustrated similes, perform strange tricks with charts and blackboards, and generally conduct themselves at kindergarten level; if this kind of "methods" are universally adopted even for the more serious subjects, then there is a danger that students may come to rely entirely on being taught and may lose or never acquire the indispensable faculty of learning.

Observation of the output of perhaps the most vital army school has slightly scared the writer. The output seems in many cases unable to express itself or indeed to work at all on paper, and to be reluctant to read anything but illustrated magazines.

In a mechanical and scientific age, and one in which the technique of tampering with the human mind in the mass has been highly developed, it is doubly important that our leaders should be capable of acquiring knowledge by methods not coloured with emotion and from sources which they can select on their own judgment. There is much to be said for the old-fashioned methods of inculcating mental discipline and exercising the powers of independent thought. It is these which have given the Commonwealth its most famous commanders in the field and inventors in the back-room.

REGISTER OF OLD WELLINGTONIANS

LIEUT.-COLONEL T.C.E. BARSTOW

Secretary O.W. Society, Wellington College, Crowthorne, Berks.

A new edition of this Register is now being prepared. It will contain the names of all those who entered the College up to the end of 1948. Circulars asking for information with which to complete the records are being posted to all O.W.s, but in many cases their addresses are not known. Any O.W. who has not yet received one is requested to communicate with me at once, giving his full name, address, and the year he entered Wellington.

INDIAN ARMY MUSEUM AT SANDHURST

An Appeal Issued by Field-Marshal Lord Birdwood and Field-Marshal Sir Claude Auchinleck.

For sometime past the question of establishing a Museum to commemorate the British connection with the Indian Army has been exercising the attention of many British Officers, who have served with the Indian Army.

The difficult problem of finding a suitable home for any mementos which may be forthcoming has had to be solved. The Commandant of the Royal Military Academy, Sandhurst has now generously offered to provide suitable accommodation as a permanent home for a limited number of exhibits in the Academy.

Would Officers and others interested in this matter who may have mementos, pictures, etc., connected with the history of the old Indian Army, which they would be willing to lend or present, communicate with the Commandant of the R.M.A. Sandhurst, Camberley, Surrey, and inform him of the nature of the presentation or

loan. Space is necessarily limited and it may not be possible to accept all offers. For this reason, it will not be possible to display old uniforms, interesting as these may be.

We are confident that no better home for this collection could be found than at the Royal Military Academy, Sandhurst, where so large a proportion of the British Officers of the old Indian Army were educated and where the great proportion of the Officers of the British Army will be trained.

"THE PIFFER"

Lieut.—Colonel J. E. B. Barton

72, Dora Road, Wimbledon, London, S. W. 19

I have much pleasure in sending you herewith a copy of "The Piffer", the Journal of the newly formed P.F.F. Association.

Copies have of course been sent to all ex-P.F.F. units in India and Pakistan and individual ex-P.F.F. officers, but there must be many other non-Piffer officers who, through their association with P.F.F. units on the North West Frontier or other parts of India, would be interested in the formation of the P.F.F. Association.

Perhaps therefore you would be so good as to insert a notice in the forthcoming issue of the U.S.I. Journal, advising readers of the existence of the P.F.F. Association. We feel that the formation of the Association and the bringing out of "The Piffer" will help to keep up the spirit and traditions of the old Punjab Frontier Force and if you could assist us to attain this end we should be most grateful.

EXTRACTS FROM LETTERS TO THE EDITOR

Brigadier C.I.V. Jones, C.B.E., H.Q. Central Malaya Sub-District, Malaya.

May I say how much I still appreciate my copy of the Journal.

Lieut.-Colonel A. J. Wilson, M.B.E., M.C., G.H.Q., Pakistan, Rawalpindi.

I have since received a copy of the Journal and congratulate you on producing it despite the difficulties with which you have had to compete.

Major B. G. Deoskar, Ferozepore.

Your staff needs to be congratulated on the manner in which they have tackled such a difficult task in spite of the unstable conditions.

Lieut.-Colonel J. Wilson, Commonwealth Relations Office, London, S. W. 1.
Just to congratulate you on the July 1948 edition of the U.S.I. Journal.

Lieut.-Colonel M.E.S. Laws, 17, Campden Hill Road, Kensington, W. 8.

May I say how much I enjoy the Journal and how greatly I appreciate the difficulties which you have had to overcome to maintain the high standard of the Journal in these difficult days?

Lieut.-Colonel M. Wylie, Kingswell, St. John's Road, Farnham, Surrey.

I would also like to congratulate you on the high standard maintained in the Journals you send me and in the very large membership you evidently possess.

Major A. M. Kadkol, 3, Para Bn Mahrattas, c/o. New Delhi, 56 A. P. O.

The standard of the Journal is exceedingly high. The articles are very instructive and interesting.

Captain S. M. Hasnain, R. Garh. Rif., The Infantry School, Mhow, C. I.

I must congratulate you on maintaining the standard of the Journal.

Major E. A. Stump, c/o. The Military Department, Commonwealth Relations Office, London, S. W. 1.

I am glad to note that the Journal continues to be published. I found it extremely interesting and a useful reference for lectures and training programmes while I was serving.

Lieut.-Colonel E. P. Townsend, Sungei Patani, Kedah, Malaya.

I was very glad to receive the April and July numbers of your Journal and find them, as ever, most interesting.

Lieut.-Colonel V. L. Misselbrook, M.B.E., c/o. Grindlays Bank Ltd., Post Box 93, Bombay.

I have read them (the Journals) with great interest and look forward to the future editions.

Captain H. G. W. Abraham, Cook Castle, Panchgani.

I also have to acknowledge receipt of your July number of 1948. This issue is, in my opinion, one of the most interesting I have had so far.

Major E. A. H. Mackenzie, Hill Croft, Exeter, Devon.

I much appreciate the Journal and pass it on to other Koi Hais. Long may it continue.

Colonel F. A. Iles, C. B. E., D.S.O., Postpach Piper, Collalbo, Presso Bolzno, Italy.

I have to thank you for the two splendid and most interesting numbers of your Journal.

SECRETARY'S NOTES

It will be noticed that the old title of this Institution has been restored. This decision has been taken by the Council in deference to the sentiments of the Government of Pakistan.

When the title was changed to "The United Services Institution of India and Pakistan" in 1948, there were Pakistan members on the Council and the Committee. Subsequently, however, the Government of Pakistan, while appreciating the work of the U.S.I. and wishing it well, decided that it could not with propriety be officially associated with an institution outside that Dominion. Also, Pakistan officers could not be office-bearers of the Institution, although they could continue in simple membership. The Council has therefore agreed to drop the names of Pakistan members from the governing body and to revert to the old title of the Institution which will henceforward be again known as "The United Service Institution of India."

In a sense, perhaps, the old familiar title with its associations stretching back to 1870 will serve the purpose just as well, without any change in name, of fostering a spirit of service and comradeship between members in India and Pakistan and the wider Commonwealth. Some of our members, retired or released in the United Kingdom and elsewhere, have written with warm appreciation of the role of the U.S.I. in helping to maintain the bonds that time has forged in the past. These bonds tested by comradeship in arms in two World Wars are a heritage which would be treasured in the minds of fighting men in India and Pakistan and the Commonwealth.

The Institution will continue its endeavour, as in the past, to be of service to its members wherever they are. It can do this best through the Journal which is a medium for the exchange of military thought all over the world irrespective of country or service. It is hoped that Pakistan officers will continue to enrol as members, and send articles and other contributions to the Journal.

Annual Council Meeting

At the Annual Council Meeting held in New Delhi in November 1948, the President reviewed the activities of the Institution for the year 1947.

The continued reduction in strength of the Armed Forces, the closing down of a number of messes, and the departure of many British officers, had deprived the Institution of a number of former subscribers. This was, however, more than offset by the number of new members enrolled, the net increase in membership at the close of the year being 135.

The Auditors' Report and Statement of Accounts showed that income during the year amounted to Rs. 48,044, compared with Rs. 43,238 during 1946. Expenditure had increased from Rs. 45,458 to Rs. 52,280, owing mainly to the increased cost of printing the Journal.

The free-hold of the plot on which the U.S.I. building stands was purchased from the United Service Club for Rs. 16,000.

Special Council Meeting

A Special Council Meeting was held in New Delhi in March 1949, when letters received from the Pakistan External Affairs Ministry came up for consideration. It was agreed in consequence to discontinue using the title of "The United Services Institution of India and Pakistan" (introduced in 1948) and to revert to the old title of the Institution, viz., "The United Service Institution of India".

In bringing the Rules and Bye-laws up-to-date, it was decided to enlarge the Council to twenty members of whom eight would be ex-officio and twelve elected. It was further decided that elections would be on an all-India basis.

The Council considered the recommendations of the Judges and made the final award of the prizes for the Gold Medal Essay Competition for 1948.

Gold Medal Essay Competition 1948

Ten entries were received for the competition for 1948, the subject of which was "Are Officers' Messes Suitable for Indian Conditions?" The judges have stated that the essays submitted were of a high standard. The first and second prizes have been awarded as follows:—

1st prize	Lieut.-Colonel D.K. Palit	Rs. 250/-
2nd prize	Sq/Ldr. B.K. Roy, R.I.A.F.	Rs. 150/-

No medal was awarded on this occasion.

The Institution is indebted to Major-General G.S. Dhillon, Air Commodore D.A.R. Nanda, RIAF, and Instructor Captain W.I. Saxton, RN, for acting as the three judges of this competition.

New Members

From 1st November 1948 to 31st January 1949, the following new members joined the Institution:

- ANAND, Lieut.-Colonel P.C., R.I.A.S.C.
- BALBIR SINGH, Captain, R.I.A.
- *BANERJI, Captain B.N., 1 Cooch Behar Infantry.
- BANERJI, Captain R.N., The Sikh Regiment.
- BHATIA, Captain M.L., The Rajputana Rifles.
- BHATTACHARYA, Lieut. P., R.I.A.
- BIR SINGH, Major, R.I.A.S.C.
- BOSE, Major R.N., R.I.A.
- CHADHA, Captain K.D., R.I.A.
- CHIMA, Captain G.S., R.I.A.S.C.

*Life Member.

- CHOPRA, Major G.R., 1st Kumaon Rifles.
 COELHO, Captain E., The Jat Regiment.
 DAS, Major V.G., 31 Madras Defence Battalion.
 DATTA, Captain P.S., I.A.O.C.
 DEGA, Major KEVIN J.A., 2nd Punjab Regiment.
 DESAI Lieut.-Colonel R.S., 3 Gurkha Rifles.
 DUBE, Lieut.-Colonel G. C., Mahar M.G. Regiment
 FRAMJEE, Lieut.-Colonel M.D., R. I. A. S. C.
 GOPALACHARI, Dr. K., M.A., Ph. D.
 GUMAN SINGH, Lieut.-Colonel Kanwar, The Rajput Regiment.
 GUPTA, Dr. PRATUL C.
 GYANI, Major J.S., I.A.O.C.
 JAITLEY, Lieut.-Colonel T.R., 33 Bombay Defence Battalion.
 JASWANT SINGH SEKHON, Lieut., 3rd Patiala Sikh Infantry.
 KALE, Major K.J., R.I.E.
 KAPADIA, Squadron/Leader A.P., R.I.A.F.
 KAUSHAL, Major K.R.S., R.D. Horse.
 *KHANDURI, Major P.N., The Kumaon Regiment.
 MANN, Captain K.S., The Dogra Regiment.
 MEHTA, Lieut.-Colonel B.N., R.I.A.
 MUKERJI, Lieut.-Commander K.K., R.I.N.
 NAIR, Lieut. N. MADHAVAN, The Madras Regiment.
 NAPHADE, Captain R.Y., The Mahratta Light Infantry.
 NARINDAR SINGH, Major, The Sikh Light Infantry.
 PANDIT, 2/Lieut. R.N., 11 Gurkha Rifles.
 PEREIRA, Commandar (S) A., R.I.N.
 PIARE LAL, Major, The Jat Regiment.
 PINTO, GCaptain E.W., R.I.A.F.
 PONNAMBALAM, Captain S., R.I.A.S.C.
 *RACHHPAL SINGH MANN, Captain, The Indian Grenadiers.
 RAM HAIT SINGH, Captain, The Assam Regiment.
 *SANDHU, Major G.M.S., R.I.A.S.C.
 *SARUP SINGH, Captain, Indian Signals.
 SATYANARAYANA, W/Commander C., R.I.A.F.
 SETH, Squadron-Leader D.C., R.I.A.F.
 SETHI, Major N.S.
 SHARMA, Major G., 8 Gurkha Rifles.
 SHARMA, Lieutenant S.P., R.I.N.V.R.
 SINGH, Captain R.K., The Jat Regiment.
 *SINGH, Captain R.K., I.A.O.C.
 SINGH, Captain S.K., The Rajput Regiment.
 SINHA, Lieut. G.N., 1 Kumaon Rifles.
 SINHA, Esq., NIRMAL C.
 SINHA, Major N.K., The Kumaon Regiment.
 SUKHDIAL SINGH, Captain, The Dogra Regiment.
 TANEJA, Major B.L., I.A.O.C.
 TRILOK SINGH, Major, I.A.E.C.

SUBSCRIBING MEMBERS :

- P.M.C., 2/5th Royal Gurkha Rifles, F.F.
 P.M.C., 2nd Royal Bn., 11th Sikh Regiment.
 P.M.C., 4th Para Bn., The Rajputana Rifles.
 O.C., 2nd (d) Mountain Battery F.F., R.I.A.
 Secretary Officers' Mess, Mewar Infantry.
 Comd., Prince Richards Light Infantry.
 O.C., 27 L.A.A. Regiment.

*Life Member.

Comdt., Int. Training School (PAK).
Officer i/c, I.A.O.C. Records Office.

"The Piffer"

Elsewhere in the correspondence section we publish a letter from the Editor of *The Piffer*, which is the journal of the newly formed P.F.F. Association. The old Punjab Frontier Force may have ceased to exist. But it has left behind a spirit and traditions which persist under the name "*Piffer*" and which this Journal seems to seek to embody and continue. The Editor has requested that the existence of the P.F.F. Association be brought to the notice of the readers of the U.S.I. Journal. Those interested must communicate with Lieut.-Colonel J.E.B. Barton, 72 Dora Road, Wimbledon, London, S.W. 19.

Library Catalogue

The new catalogue, now in the press, is of over four hundred pages. It is expected to be ready in about three months.

Elections to the Council

The following are the twelve elected members of the Council for the year 1949-50:

Dr. Amaranatha Jha
Major-General Atma Singh
Colonel G.G. Bewoor
Major-General J.N. Chaudhuri, O.B.E.
Air Commodore A.M. Engineer, D.F.C., R.I.A.F.
Captain R.D. Katari, R.I.N.
Captain (E) D.N. Mukerji, R.I.N.
Air Commodore D.A.R. Nanda, R.I.A.F.
Air Commodore Narendra, R.I.A.F.
Captain B.S. Soman, R.I.N.
Major-General K.S. Thimayya, D.S.O.
Major-General S.P.P. Thorat, D.S.O.

THE BAWA BACHITTAR SINGH PRIZE ESSAY. 1950

1. Bawa Bachittar Singh, the Vice-President of the Delhi Municipal Committee, has very kindly donated Rs. 750/- as a prize or prizes, to be awarded to the best essay or essays, written by members of the Armed Forces including those of the Indian State Forces, Civil Services, British Officers serving in India, Retired Officers and Research Scholars and Staffs of recognised Indian Universities, on a subject relating to defence.

Subject

2. It has been decided that the subject for the Essay will be :—
 “India’s declared policy in regard to her relations with foreign countries is to strive for world peace, to support the United Nations, to avoid all entanglement with Power Blocks and to use her good offices for the liberation of dependent peoples.

Her geographical position is of immense strategic importance.

She is greatly dependent, for some years upon imports of certain main commodities such as fuel, machinery, munitions, food. Taking account of these factors, develop your recommendation as to the most suitable balance of Defence Forces in peace-time, for her protection in War”.

Rules

3. The competition is open to all members of the Armed Forces including those of the Indian State Forces, Civil Services, British Officers serving in India, Retired Officers and Research Scholars and Staffs of recognised Indian Universities. It will be conducted by the United Service Institution of India.

4. All essays must be type-written and submitted *in triplicate*. They should not exceed 5,000 words, exclusive of tables.

5. Care should be taken to avoid confidential matter. When a reference is made to any work, the title of such work must be quoted.

6. The essays must be strictly anonymous and must be under the pseudonyms of the competitors. They must be accompanied by a sealed envelope with the *pseudonym written on the outside and the name of the competitor inside*.

7. All essays must be sent by registered post, addressed to the Secretary, the United Service Institution of India, Simla, so as to reach him by the 15th February 1950.

8. The essays will be adjudicated on their general merits by three judges chosen by the Council of the Institution. The expression of views which do not conform strictly to generally accepted opinions will not necessarily be considered to detract from their value.

9. There will be two prizes— a first prize of Rs. 500/- and a second prize of Rs. 250/-. These will be awarded to the writers of the best and the second-best essays, as adjudicated by the judges. The names of the successful competitors will be published in the July 1950 number of the Journal of the Institution. If in the

opinion of the judges the standard of the essays submitted is not high enough to justify the awards, no prize will be awarded.

10. Essays will become the property of the Ministry of Defence absolutely and authors will not be at liberty to make any use whatsoever of their essays without the concurrence of the Ministry.

11. Official sanction will be obtained in the case of any essay submitted by a serving officer before it is published.

GOLD MEDAL PRIZE ESSAY COMPETITION

THE last date for the receipt of entries for the Gold Medal Prize Essay Competition for 1949 has been extended. The subject is :—

“In time of peace the task of a Unit Commander of any Armed Force to lead, train, keep up morale and command his unit is more difficult than in time of war, when there is usually a clear object before him and his men. What are the qualities required of a successful Unit Commander and how can we best ensure that our officers are trained in leadership in order that they may become both good commanders and good leaders?”

Entries will be strictly anonymous. Each essay must have a motto at the top, instead of the author's name, and must be accompanied by a sealed envelope with the motto outside and the name of the competitor inside.

Essays should be typewritten (double spacing), submitted in triplicate and be received by the Secretary, the United Service Institution of India, The Mall, Simla, on or before 30th September 1949.

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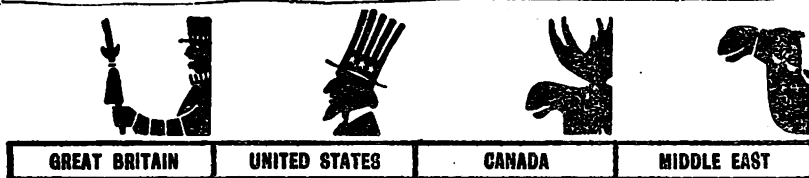
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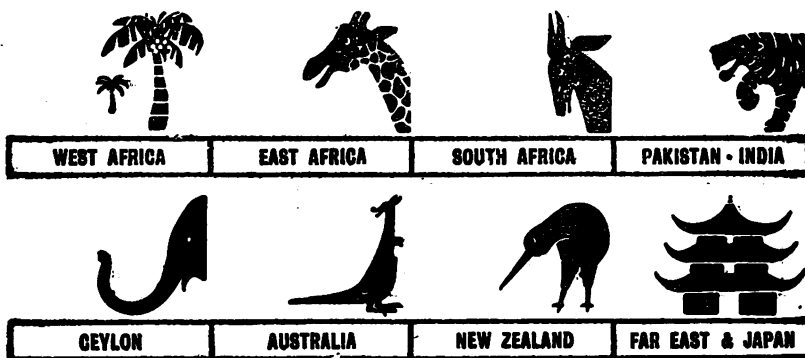
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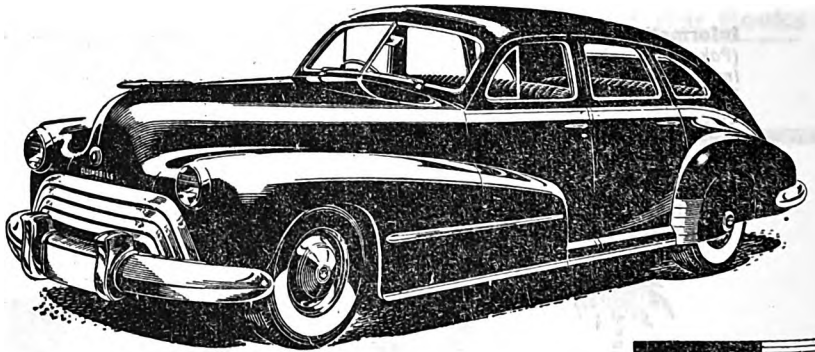


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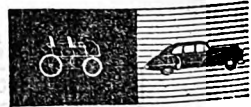
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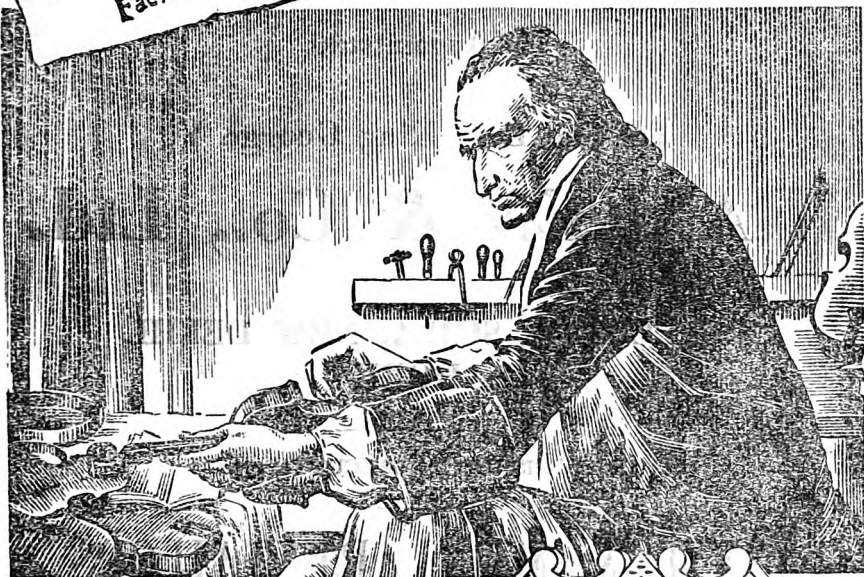
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former Viceroy and Governor-General of India.**

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ENROLMENT FORM

To, Date.....
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 Please enrol me as a member (or Life Member) of the United Service Institution of India.

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 Permanent address
 Present address

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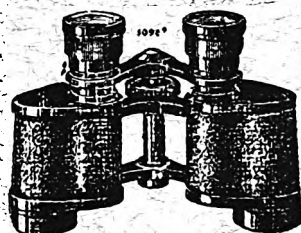
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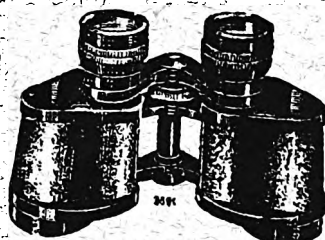
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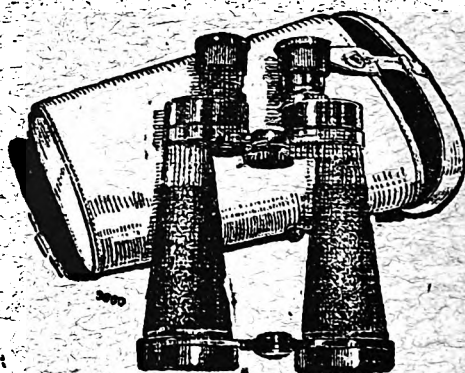
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Printed by The National Printing Works, Mori Gate, Delhi, and Published by Lieutenant-
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U.S.I. JOURNAL

JULY, OCTOBER, 1949

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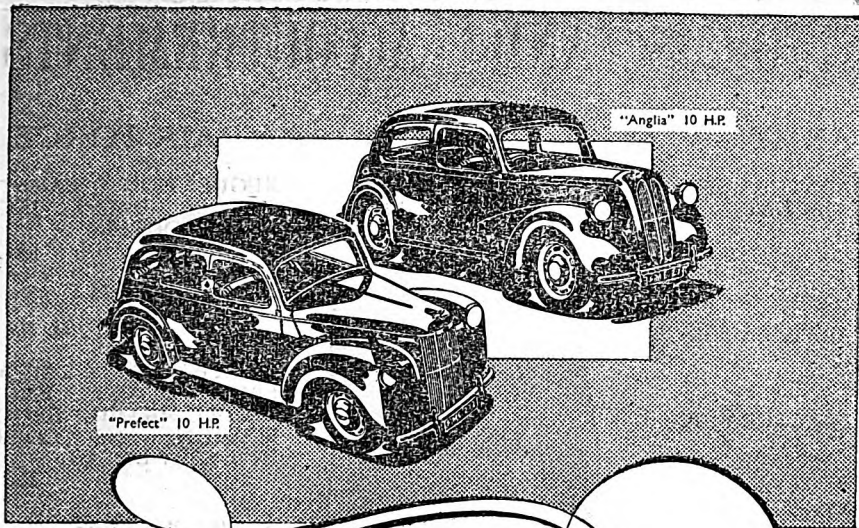
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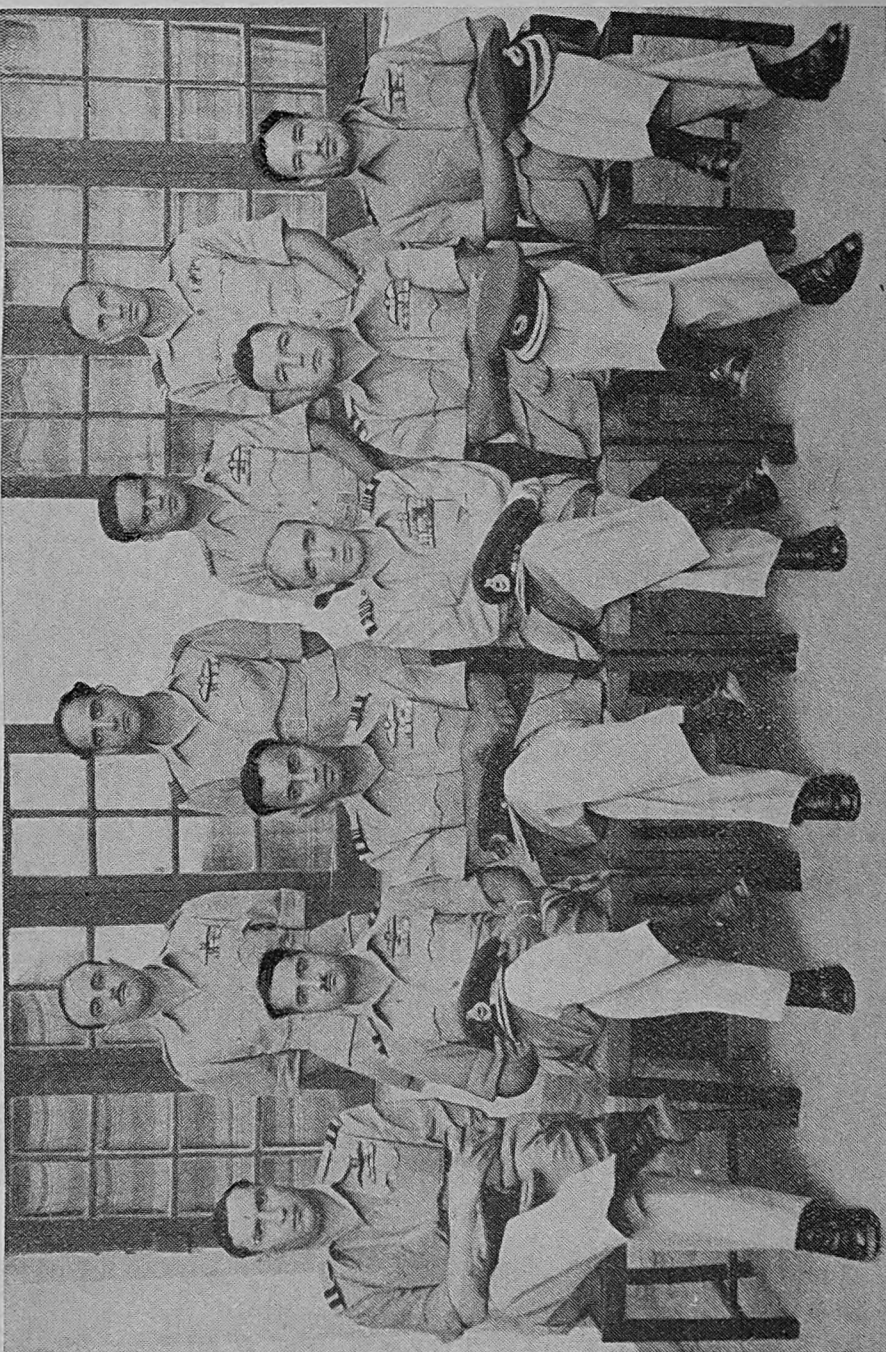
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Air Officers Commanding R. I. A. F. Operational and Training Commands and Commanding Officers of R. I. A. F. Units directly controlled by Air Headquarters met in Conference recently at the Air H. Q., New Delhi.

Picture shows (sitting left to right) Air Commodore D.A.R. Nanda, Air Officer i/c Personnel and Organisation; Air Commodore Narendra, Air Officer i/c Technical and Supply Services; Air Vice-Marshal S. Mukerjee, O.B.E., Deputy Chief of Air Staff; Air Marshal Sir Thomas Elmhirst, K.B.E., C.B., A.F.C., C.A.S. and C-in-C R.I.A.F.; Air Commodore A.M. Engineer, D.F.C., Air Officer Commanding R.I.A.F. Operational Command and Air Commodore R.H.D. Singh, Air Officer Commanding R.I.A.F. Training Command. Standing (left to right) Wing Comdr. O.P. Mehra; G/Capt. K. L. Sondhi; G/Capt. E.W. Pinto and G/Capt. Harjinder Singh, M.B.E.

The Journal of the United Service Institution of India

Vol. LXXIX.

JULY-OCTOBER 1949.

336,337.

The views expressed in this Journal are in no sense official, and the opinions of contributors in their published articles are not necessarily those of the Council of the Institution.

EDITORIAL NOTES

The Atom Bomb Again

No one ever imagined that the atom bomb could long remain the monopoly of any one country. That the U.S.A. was the sole possessor of the bomb was perhaps regarded as a guarantee that there would not and could not be a third World War so long as this monopoly continued. The announcement that Russia now possesses the secret of the atom bomb has led to speculation whether the peace of the world is now less secure. There are only two possible alternatives for the Great Powers: Either there can be a race in the manufacture of atomic weapons — which can only lead to disaster and destruction on an unprecedented scale— or there can be a sincere attempt to ban atomic weapons by common agreement among the nations. The chances of such an agreement would seem to be less remote than before. Fear of retaliation was a powerful deterrent against the use of poison gas in the last war. Common prudence if not nobler motives should wean the world away from an atomic war the consequences of which no one can foresee.

Devaluation and Cost of Living

On the night of September 18, Britain's Chancellor of the Exchequer announced the devaluation of sterling from the rate of \$ 4.03 to the £ to \$ 2.80. Following this the Government of India announced the devaluation of rupee to the same extent as sterling. The International Monetary Fund approved the new rates. The devaluation of sterling is in accordance with the present international gold value of the £.

While the United Kingdom's decision to devalue the £ was made unilaterally and without consultation with members of the Commonwealth, India's membership of the sterling bloc is, in the words of India's Finance Minister, the result of "long-standing trade connexions which are of very great help to us". Until we have been able to build up equally if not more useful trade connexions in non-sterling areas "we cannot get away overnight from the commitments history has made for us". Moreover India's membership of the sterling bloc is conducive to the maximum utilisation of her sterling balances.

The vital issue for the ordinary man is whether devaluation of rupee will aggravate inflation and raise further the cost of living. The whole purpose of devaluation, taking the sterling bloc in its entirety, is "to stimulate exports to the U.S.A. and thereby increase the dollar resources of the area". The movement of capital from India to other countries would now diminish and similar investments in India for dollar bloc countries would be more attractive. If these tentative assertions of the Finance Minister prove to be right, there is more reason for hope than for despair about India's economy. On the specific point of cost of living, it has been stated that since all the items on which the cost of living index is based are of indigenous origin the index should not increase. As regards food, imports from the U.S.A. for the current year had already been completed and there would be no additional expenditure on that account. As regards cloth, medium and coarse varieties were produced out of short staple cotton of indigenous origin.

The whole future economy of the country depends on the solution of the food problem. An all-out effort is needed towards

making India self-sufficient in food. In this connection the Prime Minister has referred to the wonderful job done by the troops in Assam in their leisure hours from military duties.

Territorial Army

A Government of India notification has announced the raising of territorial units in India. The Territorial Army would not only have infantry units but also mechanised and specialist units and would be recruited on a territorial basis irrespective of caste.

Rules and conditions of service have been published in a very attractive brochure which has received wide publicity and appreciation. The Territorial Army would in years to come form the backbone of the security of India and it is therefore imperative that the best officers and men are selected and recruited. A large number of ex-servicemen could be absorbed in Territorial Army units.

US Military Honour for C-in-C

For the first time in the annals of the Indian Army, General K.M. Cariappa, OBE, C-in-C of the Indian Army, has been awarded the Legion of Merit, Degree of Chief Commander. At the ceremony held on 31st August 1949, the US Ambassador in India personally represented the President of the USA.

The citation says :

• "The President of the USA, authorised by Act of Congress, July 20th, 1942, has awarded the Legion of Merit, Degree of Chief Commander, to General Konandera M. Cariappa, Indian Army, for exceptionally meritorious conduct in the performance of outstanding services.

"General Cariappa, C-in-C, Indian Army, displayed exceptionally meritorious conduct in the performance of outstanding services during the war years, and during the difficult post-war years immediately thereafter. General Cariappa served with great distinction in positions of responsibility with the Allied Forces during the war years, 1941-1945, in the Middle East, Burma and India. Thereafter his inspired leadership in the Indian Army, during a difficult period of readjustment from 1945 to 1949, has been in accordance with the highest military traditions."

This high decoration is not only a recognition by the USA

of General Cariappa's leadership of the Indian Army, but also an expression of appreciation of the services rendered by the Indian Army towards the Allied cause during World War II. It is an honour of which all ranks of the Indian Army can be proud.

In theory, the complete overthrow of the enemy must be the aim of warfare. But it is not necessary for peace and is rarely achieved in practice.—*Clausewitz*.

SEA, LAND AND AIR

CYRIL FALLS *

Chichele Professor of the History of War, Oxford

I read the other day a newspaper article by a former officer of the Royal Air Force. It is astonishing how often writers on an intricate technical subject attack it cheerfully, without the smallest evidence that they have read any previous discussion upon it or have studied the available evidence. It is as if an undergraduate were to present a thesis on free-will and predestination without knowing that it had ever been debated before. Here the writer, who was dealing with the deficiencies of British armament, did actually produce some scraps purporting to be evidence from the late war, but was either unaware of, or concealed, the fact that they had been subjected to damaging criticism. The argument was, broadly speaking, that our defence preparations were nullified because we were throwing money away on obsolete rubbish like armies, navies, tanks, submarines, and so on, whereas we ought to be putting it all into aircraft. And even our expenditure on the air arm included a useless item such as tactical co-operation with the other Services. The sooner we cut out all this sort of thing and relegated Field Marshal Lord Montgomery and other military and naval commanders to the position of museum pieces, the better would be our chances of survival.

The logical and sensible answer to this sort of argument is not that it is nonsense, but that it has been put forward by some prominent spokesman about once every five years during the last generation, and has always been proved to be utterly and ludicrously wrong. There can be no absolute certainty that it has not become correct, because the power of the air arm has undoubtedly increased relatively to that of land and sea forces without the aid of air power. It is, however, highly doubtful, and the danger of banking on its validity would be so great that it might be called suicidal. Perhaps the most famous expositor of these views since Douhet, was an American, now almost forgotten, but at one time a household word under the name of Billy Mitchell. The historian of the United States Navy has drawn up a list of the propositions put forward by him, at a time when senators venerated his words as though he had been the Pythian Oracle, and pointed out that every prophecy he made proved false. It would indeed be difficult to find a greater proportion of error in the same space in any pronouncement. Once again, because he and all others of his type have always been wrong, it does not follow that they will not some day be right. But we need to be certain that they are before we act upon their advice.

For it should be noted that in war the result of taking a wrong line in matters like these may well be complete and irremediable disaster. If you approach the danger period with your military production so organised that, though it is but a fraction of what will be required in time of war, it is susceptible to expansion in any given direction then you have made the best preparation that a democracy is likely to make for war, and you will at least be able to steer your arms policy in accordance with the shape of the obstacles, as they emerge from the mist. If, however, you have absorbed the doctrine of the latest Billy Mitchell so deeply that you have decided to go to war without a navy at all, and then find that you need one, you may never be afforded the opportunity to repair your error. To the time employed in building the

* Reproduced by courtesy of the *Illustrated London News*.

ships required you will have to add that for the restoration of decayed shipyards and training of shipyard personnel, officers and crews. The gap in technique and doctrine will have to be overcome. And meanwhile the country—certainly if it is this country—may have been starved and ruined by your neglect.

In the late war the two main theatres of action in which these theories were put to the test were the Atlantic and Pacific Oceans. The Mediterranean was also important in this regard, but the situation was more complex and the deductions are more disputable. The Battle of the Atlantic was at one moment nearly lost for lack of naval resources, including escort carriers, what the Americans called "baby flat-tops." And the issue which the advocates of bombers as the sole weapon will never face is that if the Battle of the Atlantic had been lost, everything would have gone with it. Starvation is the one calamity against which no weapons avail, not even for a day. Moreover, defeat in the Battle of the Atlantic would have meant that not a drop of fuel reached these islands either for ships or for the big bombers. Thus the form of warfare which is often said to be independent of sea or land forces would have collapsed. For this nation, though admittedly not for all to the same extent, the means of attack and defence and the Services which employ them are all of a piece. I repeat yet again that I do not expect the conditions of another war, if one should occur, to be the same as those of the last. But can we risk facing another Battle of the Atlantic without providing forces to protect convoys—and allotting air power to them—especially in view of the fact that it will be less easy than last time to find bomber targets?

The conditions of the Pacific war were very different. In the first place, on the American side, it was never primarily a convoy war, though the safety of convoys, above all in the earlier stages, caused great anxiety. Then the Pacific is by far the larger ocean, but at the same time furnished with an infinite number of stepping-stones. Once the great Japanese offensive had come to an end, which happened comparatively early, and it had been found possible to breach the defensive perimeter across the ocean, the battle resolved itself into efforts on the one side to secure the most suitable of these stepping-stones, with a view to closing upon Japan, and on the other side to defend them against attack. It thus became the foremost example of combined operations since the invention of the aircraft. Japan was forced into surrender by action from the air, before her main army had suffered defeat; but the heavy bombers operating from the Marianas and Okinawa owed their opportunity to the naval and land forces, without which these bases could not have been secured. No phase of the Pacific war, from beginning to end, could have been undertaken without the participation of the forces of sea, land and air.

I observe an increasing tendency for the extremists on the subject of bombing to assert that we might just as well have kept the armies at home in 1944, because the war could have been finished as quickly by the bombers without them. The first retort to be made to that argument is that, if the American and British forces had not landed in Normandy when they did, London would have been reduced to the state of Berlin by the beginning of 1945. Incidentally, the Russians, supposing that in fact Germany had collapsed under bombing, might well have advanced to the Rhine. It is hardly worth considering this aspect of the case, however, since the case itself is false. The bomber offensive exerted without doubt a great effect in slowing down the German capacity to resist, but it was not until the Allied Armies reached the Ruhr that production virtually ceased. And in the Ruhr itself, as well as in some of the construction ports, there were found amidst ruins and apparent desolation astonishing instances of production continuing on a substantial scale up to the last moment. The bombing—itself made possible by sea power—might well have succeeded in the end in bringing Germany to her knees, but not by May, 1945, and what would have happened to us in the interval defeats the imagination.

Another matter to be considered is that without naval forces the Western Allies would have been unable to send supplies to Russia by the Arctic convoys, and that without naval and land forces these could not have been sent by way of Persia. It is well within the bounds of possibility that without this aid Russia could not have stood the strain. If she had not, the Germans, freed from all anxiety on that flank, could probably have concentrated to a far greater extent against Britain by means of submarine and aerial weapons and rendered the country unserviceable as a base for both British and American bombers. I am not making a claim for any one of the Services to be considered predominant, and so far as I am aware, no student of warfare whose first approach is from the point of view of the naval or land forces ever does so. All I seek to establish is that in the circumstances of the last war, and in particular those of the United Kingdom, the happy marriage of all arms was a necessity to success. It was when this principle was neglected—as, for instance, by the Japanese at Guadalcanal, when they left sea and land forces with inadequate air cover—that disasters occurred.

I wrote much on this subject a few years back, and return to it now because there appears to be a danger of the lessons then appreciated being slurred over. I am prepared to admit that, as matters stand at present, the United States and the United Kingdom, if they upset the balance in any respect, are justified in doing so in favour of air power, since that provides the means for striking the quickest blows against an aggressor. But to abandon the doctrine once established would be extremely rash. Those who tried to lead us astray in the past and nearly did so can claim that the potentialities of their weapons are relatively greater than they were in 1939 or even 1945, but their arguments are still prejudiced and unbalanced. If they were to be accepted, we should find ourselves dependent on virtually nothing but bombers, and even then probably without enough bombers to hold the enemy's advance. Whatever claim is made for bombing, it is surely plain that, leaving the atomic bomb out of account, the bomber can hardly be decisive in the first stages of a war. We cannot afford to give the partisan of any single method of warfare his head, and stake our destinies upon his having guessed right, especially when he has never done so before.

That is why the Ministry of Defence was set up. It was to exercise a general control over the service Ministries and to insure that the forces should be properly balanced, the final court of appeal in aspects of grand strategy being the Prime Minister. Unfortunately, such evidence as is to be had suggests that it has not so far fully carried out its mission. Failure here constitutes not only a waste of effort, but also a danger, because a machinery of control which appears to function but does not actually do so gives a false impression of security and well-being and is thus worse than none. The conception is sound, and it ought not to be difficult to improve the execution. Without this safeguard our military policy runs the risk of being swayed by impulsive and ill-considered arguments or, alternatively, of being moulded by that last refuge of those who cannot make up their minds, a mechanical and quantitative compromise between conflicting demands. If the organisation is judicious a few irresponsible voices do no harm, but this is not the case if it contains a flaw.

ECONOMIC MOBILISATION *

BRIGADIER B. M. KAUL

PART I

THE subject of military economics, which occupies a position of major importance in the literature of war, has so far received little attention in India. It is therefore the purpose of this article to present the subject of economic mobilisation as a whole and emphasise the need for most careful planning in this respect.

In the event of war, it is not enough to mobilise the nation's military strength. There must be a mobilisation of all the economic resources—agricultural, industrial, financial—in order to defeat the enemy. These resources must be organised, co-ordinated and directed with the same strategy that governs the operations of war. The need for the preparation of plans for war-time procurement and to develop over-all plans for industrial mobilisation is therefore great today.

It is not always the producer of the best equipment who wins in war. Napoleon retreated before the industrially backward Russians in 1812. The Italians were defeated by the Ethiopian tribesmen in 1896. When a highly industrial country wages war at a distance from its base, it may be unable to supply its troops adequately. Transportation and distribution are thus as important as production.

The chief economic activities of a people in modern war consist of converting their resources to military purposes, reserving, so far as possible, an adequate portion of production to satisfy civilian needs.

War, with its unusual industrial demands, shifts the emphasis in production suddenly to items for which a sufficient supply of raw materials cannot be quickly developed. The importation of some materials, which have been previously purchased in abundance, is sometimes cut off by enemy action. No government with any regard to its security can therefore really afford to dodge the necessity of maintaining an up to date analysis of its own potential as well as the potentialities of possible foes and allies.

The general framework in which the study of the war potential of a country might be made can be provided by the following heads :-

Geographical

The location, size and shape of a country particularly with reference to neighbouring countries.

* This article will be published in two parts. The second part will deal with problems confronting India and their possible solution. The author who was formerly Military Attache' in Washington writes from his own observations and study of the subject in the USA during 1947-48.

Political

The political stability of a government determines the speed and effectiveness with which its war machine can be mobilised and maintained over a prolonged period. Special attention should be paid to such internal elements as disloyal minorities (such as pacifists and alien residents who may be unfriendly) which might interfere with effective mobilisation and the conduct of war. A country's foreign alliances also play an important part.

Economic

The raw material sufficiency, industrial plant, transport and communication systems, productivity of labour, industrial adaptability, research and the financial machinery go far towards determining the size and effectiveness of the fighting forces.

Demographic

The evaluation of the demographic factor begins with head counting. For nations which periodically secure and publish accurate census statistics it is no problem to determine such facts as totals, the breakdown by sex and age groups, classification by occupation or profession, geographical distribution and the rate of change in population growth. But what is of great importance and at the same time most difficult to estimate is the actual and anticipated psychological response of the people to the conditions produced by threat of war. The history of war is replete with instances of serious errors in estimates of the psychological reactions of enemy peoples in a military emergency. Twice in this century Germany's military intelligence experts paved the way to their country's disaster when they grossly underestimated the fighting capacity of their actual and potential enemies, particularly of the United States.

Military

This includes current strength, composition and organisation of the armed forces, military policy, strategic and tactical doctrine, systems of training, military installations and equipment (particularly new items).

RAW MATERIALS

Substitution

No government can ignore the military importance of peace-time developments in substitution. Although Germany lacked in sufficient supplies of most raw materials except coal, fluorspar, potash magnesite and graphite, she made surprisingly effective use of what she had and produced large quantities of such materials as synthetic gasoline and ferro alloy minerals with only minor sacrifice of quality and man-power. Foreign strategists had deemed such an outcome virtually impossible.

Control and Direction

An adequate total supply of raw materials is not enough to assure maximum effective mobilisation. It is necessary that raw material supplies be balanced and most effectively canalised into essential production. Materials must be made available in time, at the right place, and in correct amounts. This will depend on a series of factors such as public opinion, price control, consumer rationing, priorities and allocations.

Strategic and critical materials

"Strategic materials" are those essential to national defence, for the supply of which in war dependence must be placed in whole, or in substantial part, on

sources outside the country concerned and for which strict conservation and distribution control measures are necessary. "Critical materials" on the other hand are those essential to national defence, the procurement problems of which in war would be less difficult than those of strategic materials either because they have a lesser degree of essentiality or are obtainable in more adequate quantities from domestic sources and for which some degree of conservation and distribution control is necessary.

The strategic and critical materials can be listed in three groups :—

- (a) For which stock-piling is deemed the only satisfactory means of ensuring an adequate supply for a future emergency.
- (b) Material, the acquisition of which is necessary only to the extent that they may be made available for transfer from government agencies. Adequacy of supply can be ensured either by stimulation of existing production or by partial or complete use of available substitutes.
- (c) Materials which are not now recommended for permanent stock-piling because in each case difficulties of storage are sufficient to outweigh the advantages to be gained by this means of ensuring adequate future supply.

"Raw materials" is a vast subject and requires numerous well organised agencies under constant governmental supervision.

In the USA, for instance, there are three main agencies concerned with raw materials :—

Army and Navy Munitions Board

It has compiled a list of strategic and critical materials and has drawn specifications covering the quality of such materials to be stock-piled and fixed quantitative objectives for each material. The list of materials, the specifications and the quantitative objectives are under continuous study and review by the board.

Bureau of Mines and Geological Survey (Department of Interior)

This Bureau conducts extensive investigations of the mineral resources of the United States, in order to assist in the exploration, discovery and development of additional mineral resources. The ultimate objective is an appraisal of the total mineral resources of the U.S.A.

Office of Metals Reserve

This office has to produce, acquire, carry and sell or otherwise deal in strategic and critical materials necessary in connection with the national defence programme. Reserve stocks of such materials are being accumulated when available supplies permit.

INDUSTRIAL PLANNING

No programme of national security is complete without a meticulous industrial planning. The plans for industrial mobilisation should include careful cataloguing of every mill and factory in the country capable of conversion to war production. They should provide for small scale manufacture of weapons by a number of individual companies for experimental purposes as well as to provide for production. They should also contemplate the stock-piling of raw materials, continual research for governmental and civilian scientists, securing industrial facilities against sudden attack and drafting arrangements for governmental production control in time of war.

General Eisenhower said recently, "National security is a state of organised readiness to meet external aggression by a quick and effective mobilisation of public opinion, trained men, proved weapons and essential industries integrated into the most efficient instrument of armed defence and reinforced by the support of every citizen".

In the U.S.A., by Presidential decree, industrial planning for the next year is now being conducted under the aegis of the Army and Navy Munitions Board assisted by the Chiefs of Staff Committee. As its first step the Board is setting up some seventy industrial advisory committees to deal with all phases of governmental and industrial war activity. Army, Navy and Air Force procurement officers are in the field inspecting potential war plants. The part each of these plants will play in national defence, the weapons it will make and the schedule on which it will turn them out are being determined now. The Board has already completed surveys of a number of key war-time industries and arranged for various companies to carry out experimental production of certain materials. Designs have been drawn, plants tooled and even pilot models made, *e.g.* of new bombing planes. The Board had to face a serious dilemma in setting policy for this aspect of preparedness. On the one hand was their desire for American industry to be prepared in case of emergency to supply instantly whatever may be needed for the military forces as well as for the civilian population. On the other hand they realised that there is a practical limit to financial support and to interference with normal business processes.

The menace of the atomic bomb has led to intensive study by the Board of underground plants. It is fully realised that long range missiles can make a shambles of industrial areas. Military experts have therefore been studying England's enormous one-mile long underground factory which remained intact during the Battle of Britain. They have reviewed Japanese technique in building underground shelters, hangars and storage facilities. These are said to make for maximum employment of natural formations and to permit concrete construction without use of forms. In this connection it is understood that Russia with prisoner-of-war labour, has built the biggest underground airfield in the world. It is said to be located "in a highly dominating and commanding area which has a great semi-global air striking potential."

The results of the U. S. survey of underground plants are still secret. It is understood, however, that, contrary to expectation the "caves" have not been found generally suitable for storage. Too much reconstruction would be required because of variations in level and the unevenness of the ground. The high humidity would be injurious to stored materials. Mines and quarries appear to be more easily adaptable to industrial war purposes. It is too early, however, to say what the final conclusions of the Board will be on this subject.

Another task before the Board is the stock-piling of strategic materials—the key element in the national defence. The USA is determined to avoid a repetition of her World War II shortage of rubber, tin and other essential commodities. Many controversies are raging in the country as a result. Several rare items the Board wants for defence purposes are in high demand for civilian industry. The Board has pledged to avoid hurting civilian economy but is equally determined that stock-piling must be maintained.

The Board has developed a five-year programme for purchasing "scarce but essential items" worth a total of 1.8 billion dollars which, in their opinion, is the minimum amount necessary for American security. Nevertheless, the Congress appropriated only 100 million dollars towards this goal. The services are pleading for the balance vigorously.

The USA at first thought that a large stock-pile would result in the same way as it did in France and the UK in 1939 with a huge mass of outdated equipment. The advent of the atomic bomb and all other long-range missiles has changed the situation. It has now become essential, in the opinion of experts in the country, to possess enough weapons to defend a country even if its productive activity is knocked out. There is always a time lag of four or five years between the completion of blueprints and mass production of weapons. One cannot fight an enemy with a blueprint.

The armed forces are also anxious for legislation which would provide for a labour draft in case of World War III. Overtures are now being made to win organised labour's support for such a measure.

Not long ago the late Secretary of Defence Forrestal warned civilians that the next war would bring far more stringent government controls on man-power and industry to achieve speedy and total mobilisation.

The US Military High Command are aware that they are being dubbed as "war mongers" because of their drive to keep American industry "ready to shoot". They feel, however, that aggressors only strike against the weak, not the strong. They are therefore determined to be strong and fully prepared to meet any power which decides upon aggression.

Industrial Conversion to War

The transition of the industrial economy from peace to war is a gigantic process. It includes the general problems of mobilisation of manufacturing capacity, the provision of machine tools, and the various aspects of war-time conversion and expansion. It entails ship construction and repairs, manufacture of iron and steel, guns, ammunition, shells and bombs. Several new industries have to be set up virtually from scratch.

ECONOMIC MOBILISATION IN THE U.S.A. DURING WORLD WAR II

Let us have a peep into the US industrial set-up during 1939-45 and see how that country tackled her problem of economic mobilisation.

The most important problem, at the outset, was in regard to articles which were not produced in existing plants. It was accordingly necessary to convert plants or to construct new ones for this production. Moreover, marked diversity was exhibited by the varying requirements for materials in different theatres of war. There were changes in aircraft design with changing operations. The successive campaigns in North Africa, Sicily and Italy resulted in new demands for altered types of vehicles to carry loads over varying types of terrain. The large scale amphibious operations in the Pacific required new types of LVTs which could surmount the coral reefs along the shores of remote islands. Thus changes in war demands, as military operations changed in tempo or geography, added new complexities to the already complicated job of the war manufacturer.

Immediately after Pearl Harbour, there was a mad scramble for production. Within a year 70,000 prime contracts and 700,000 subcontracts were signed, involving thousands of manufacturing establishments and aggregating many billions of dollars. This resulted in a free-for-all fight for materials, equipment and labour which necessitated a wide variety of controls in order that the right projects could secure the right products at the right time. The various problems that arose in connection with this sudden demand for an immediate change from the

national economy of peace time to the economy of total war, may be grouped under five categories :—

- (i) Mobilisation problems.
- (ii) Problems of tooling up.
- (iii) Problems of conversion.
- (iv) Problems of expansion.
- (v) Problems of administrative controls.

There had been intensive planning for industrial mobilisation in the U.S.A. long before 1939. The basic feature of this planning was a super agency headed by a civilian administrator. Industries were to be represented as a whole. There was to be liaison between the Army, Navy and Air Force on the one hand and industry on the other, in this respect. Information regarding industry was to be constantly compiled. There was to be control and policing of industry to ensure compliance. On the basis of surveys of individual industrial plants, which were carried out, the industrial facilities of the nation were to be allocated to the various procurement branches.

The principle that wartime production should proceed under a priorities system was generally accepted. There was no "M" day from which industrial mobilisation began. It was gradually spread over many months and may be described as "creeping mobilisation".

The first problem was to assess the national plant capacity. Next, negotiations were begun with various manufacturers. Contracts were given to large firms in preference to smaller firms as the former had greater experience and could be more relied upon to undertake the construction and assembly of a complete unit of equipment in vast quantities. This led to wide-spread public criticism that owing to the failure in utilising the existing manufacturing facilities of thousands of small plants, 50 per cent of the potential machine tool hours of the U.S.A. was lost, thus slowing down the overall production of various defence stores and equipment. As a result, many small firms were given greater opportunities which enabled them to make vital contributions to the total war effort.

It is necessary for each arm and service in the armed forces to know exactly what it wants, in what quantities and at what times. When war came, they did not have this information in the U.S.A. In this respect, therefore, their industrial mobilisation plan was inadequate.

The four basic elements of production are management, facilities, materials and man-power. The one factor common to all these is the machine tool. It is unique in that it reproduces itself (machine tools are made by machine tools). By technical definition it is a machine that shapes metal by removing chips. The most complex machine tools, such as those which make aeroplane engine blocks, represent combinations of these simple processes. Most of the great powers engaged in World War II made intensive efforts not only to acquire large stocks of machine tools but also to expand facilities for producing them. There are about 250 different kinds of machine tools and various types of each kind. They range from small bench sizes to giant machines. Some simple machines, requiring only moderately skilled workers, run at high speeds and produce thousands of units per day; others are extremely complicated, requiring highly skilled operations and produce a complete component such as an aeroplane engine block.

It has been universally recognised that machine tools are the fundamental commodity in any major war effort. From the view-point of most manufacturers, therefore, the conversion to war production in World War II merely meant the procurement of either additional or different machine tools. First of all, orders were placed by the Government in anticipation of future tool requirements. The manufacturers then obtained from government adequate funds for plant expansion. The supply contracts covered purchase orders for machine tools in advance of the actual assignment of the tools to individual war contractors. The Defence Plant Corporation, a subsidiary of Reconstruction Finance Corporation, was organised in August 1940 to finance supply contracts. In February 1941, it made available 35 million dollars for the advance purchase of machine tools. This was soon followed by an additional 200 million dollars for the "Thousand bomber programme". In these transactions the defence plant corporation was guaranteed against loss by the War and Navy departments.

Steps were taken to prevent hoarding of machine tools. Numerous machine tool panels were organised throughout the U.S.A. These panels consisted of experts who knew where the machine tools were. Many machines were changed over to make products different from those for which they were originally designed. For example, 50 old machines that had been used for turning tyres were converted into tools, for making turrets for tanks and were assigned to a plant manufacturing tanks. Such adaptations were not efficient. The tanks were not produced as quickly as they could have been with the proper machine tools.

One of the lessons learnt in the tooling up of the national economy for war is in connection with the costly special tools for the production of munitions and ammunition tools which have only a war-time use. Many of these took over a year to build. Such machines should be kept in readiness for instant use. All obsolete machines in the arsenals should be replaced by modern machines so that in the event of another war, the tooling up job will not be as slow as it was in World War II.

Conversion of Manufacturing Facilities

This took place in the U.S.A. during 1939-45 in three sets of circumstances :—

- (i) When the manufacturer changed from production for civilian to that of military uses but employed the same facilities and made the same items as before the change.
- (ii) When he changed from the production of a civilian to that of a military item but used the same facilities.
- (iii) When he not only changed from the production of a civilian to that of a military item, but also changed to new facilities.

Plans for industrial conversion were gradually developed and put into effect in sequence deemed most expedient by the War Production Board. The production of certain items was stopped in 1942 as follows :—

February	.. Automobiles.
April	.. Refrigerators, vacuum cleaners, and radios.
May	.. Domestic washing machines.
June	.. Lawn mowers and residential oil burners.
July	.. Pianos and sewing machines.
November	.. Farm machinery.

In addition, the production of hundreds of civilian articles was stopped by prohibiting the use of aluminium, copper, steel and other metals in their manufacture.

Efforts were made at the same time, to ensure that the production of certain essential civilian goods should not cease completely.

There were many instances of ingenious adaptations of manufacturing facilities to the manufacture of war items. For instance, the adaptation of tombstone cutting machinery for making ship plates; machine for lawn mowers making armour-piercing bullet cores; women's hair curlers for making clamps for aeroplane assemblies; toy trains for bomb fuses; watches for fire control equipment; typewriters for machine-guns; and washing machines for aeroplane parts.

The conservation of materials which resulted from stoppage of civilian production was considerable. For every 24 automobiles not made, enough steel and rubber was saved to make a 27 ton medium tank; for every 700 automobiles not made, enough aluminium was saved to build one fighter plane. It was also reported that for each large juke box not made, enough brass was saved to make 750 cartridge cases and enough steel to make 5 light machine-guns.

Once the United States industry was geared up it began to achieve enormous results. During the years 1940-45 the record of items produced is most impressive :—

Planes	..	..	296,000
Naval ships	..	..	71,062
Tank guns and howitzers	..	..	116,592
Machine-guns	..	..	2,681,052
Tanks	..	..	86,333

Before 1939 there were relatively few government controls affecting the internal working of a manufacturing plant. The typical industrial enterprise was operated very largely for profit.

Following the outbreak of hostilities in Europe and the Far East, American manufacturers were eager to obtain contracts. In order to be in a position to secure and file as many orders as possible, each manufacturer took various measures to insure himself of an adequate supply of materials by ordering more than he needed; an adequate working force, by engaging large numbers of excess workers, and giving himself a margin of safety by buying machine tools and other facilities considerably in excess of prospective needs. The scarcer the material, types of labour and machine tools, the more frantically he hoarded them. Controls were therefore introduced for the maximum utilisation of the industrial system. They consisted of priorities, allocations; restrictions and prohibitions.

The events leading up to Pearl Harbour changed the concept of the priorities system. The severe shortage of critical materials thus became the chief problem, rather than the question of who was going to be served first or how quickly. To meet this changed situation the Production Requirement Plan was introduced on 3 December 1941. This later resulted in the War Production Board being authorised to requisition materials essential to war production. Later Controlled Materials Plan was introduced. The unique feature of this plan was that although it controlled only the three most important materials, namely steel, copper and aluminium, yet by allocation and scheduling

of these three key metals, it controlled indirectly practically all other materials and components entering war production. Moreover, by this plan, enough materials to make each item or component were allocated, scheduled, and delivered to the places of manufacture.

One of the principal factors contributing to the success of the Controlled Materials Plan was the production scheduling system made possible by the co-operation of the manufacturers themselves who set up their own shop and delivery schedules. By this system the War Production Board ensured not only that the correct quantities of materials and the right numbers of components were received, but also that they were delivered at the right place and time.

One of the definite results of the Controlled Materials Plan was a marked advance in the conservation of the materials. Realising that shortages in critical and strategic materials might have disastrous effects on the war production programme, the conservation division inaugurated five programmes, sometimes referred to as "The Five S's"—substitution, specification, simplification, standardization and salvage. The manufacturer felt the impact of all five. As a result, there was a colossal saving in material, men and machine hours.

American economic mobilisation was under way in 1940 but the Controlled Materials Plan was not fully operative until 1943—when it was universally accepted by industrial executives. It eliminated considerable paper work and saved thousands of manufacturers from the task of filling in numerous exploratory questionnaires. Had this plan been adopted sooner, it would probably have saved the taxpayer several billion dollars in war expenditure.

The industrial system which existed in 1939-40 had cost 40 billion dollars to create. In this basic industrial system were the industries of iron and steel, the non-ferrous metals, coal and petroleum, chemical foods, food products, and machinery and electrical equipment. This industrial system was available on 7 December 1941 and was mobilizable because it was the greatest industrial system in the world.

Let us now study the mobilisation programme in respect of four important industries, viz. automotive, aircraft, ammunition and textile industry.

The Automotive Industry

The American industry before World War II, produced well over three times as many motor vehicles as all the rest of the world put together. This industry proved an invaluable asset to war production due to the part the internal combustion engine plays in mechanised war. Existing plants were converted to produce planes, tanks, self-propelled guns and military trucks. As a result considerable loss occurred in raw materials and goods-in-process which, due to this abrupt change, could never be assembled into saleable automobiles. This industry was asked to build three-quarters of the nation's aircraft engines, more than a third of the machine-guns, four-fifths of the tanks and tank parts, half of the Diesel engines, and all of the motorised units for the US Army. By July 1943 this industry had produced 86000 tanks, 16000 armoured cars, 88000 scout cars and carriers, 16000 chassis for self-propelled guns and 2½ million trucks.

The Chrysler Corporation did important pioneering work in machine tools for tank production and eventually managed with the help of the new M-4 tank producers, to change over M-3 tank assembly line to M-4 tank production. De Soto, Chrysler, Hudson and the Good Year Tyre & Rubber Co. also produced different parts for aircraft.

Ford Motor Company held the view that they would either make the entire aeroplane or nothing. They were not prepared to make parts for aeroplanes. And shortly afterwards they were allowed to develop plans for the largest aeroplane plant ever constructed (the Willow Run Plant at Ypsilanti, Michigan, erected at a cost of 95 million dollars and financed by the U. S. Government.) This was soon outdone by the 181 million dollar Chrysler-Dodge plant at Chicago for the manufacture of aeroplane engines.

The Pontiac division of General Motors Corporation was converted to the manufacture of anti-aircraft guns.

The Aircraft Industry

The aircraft industry surpassed all other industries during World War II in value of output. Commercial production of aeroplanes in the USA began in 1909 when the American Government purchased its first plane from the Wright Brothers. Ever since then the Army and Navy have been the largest customers of the industry. Prior to World War I there was little production in the 13 then existing aircraft establishments with their total of less than 200 workers. During the eight years prior to 1916 the Government had purchased 64 planes (an average of 8 planes a year) from 9 different factories. At the time the US Army entered Mexico in March 1916, the US Government owned 16 planes. In 1917 the USA ranked seventeenth in aviation amongst the nations of the world. By 1939 she had made great strides as an air power. There were now 125 aircraft factories employing 48000 workers. And then came the production rate of 60,000 planes requested by President Roosevelt in 1942. This implied one new plane every 9 minutes and 1.6 million workers (one-fifth of the total national labour force). At the time the annual rate of production was 6000 planes. By 1944 the average rate of production was 91,000 planes per year, or one plane every 5.8 minutes.

Another achievement was the substantial production brought about in the cost of aeroplanes. In 1941 the cost per pound of aircraft production (excluding engine) was 23 dollars. It declined to 15.87 per pound during the first half of 1945. This resulted in saving billions of dollars in the long run.

The members of the aircraft industry, under the stress of the colossal demands for planes which followed Pearl Harbour, not only began to get in touch with each other for the purpose of exchanging information, but also established close liaison with the automotive industry.

In order to raise the annual rate of production to 91000 planes, a serious man-power problem, requiring a wide variety of skills had to be solved. Women were persuaded to leave their homes; retired and aged people went back to work. Hundreds of people worked on night shifts while doing their regular work during the day. School boys and girls worked after school hours and during vacations: when employment reached its peak of 2.1 million in November 1943, 486,000 (nearly one-fourth of the total) were women.

The government assumed the heavy task of financing much of the production. In addition, there were many instances of collaboration among the companies. For instance the P-39 Lightning was made by Lockheed and Consolidated Vultee, and the B-29 Superfortress was built by Boeing Bell and Glen L. Martin.

In order to speed up the production of Britain's "Spitfire", constructed with Rolls Royce engine, British experts enlisted American mass production. They came to Washington with 2500 blue prints and specifications. The Ford

Motor Company, pioneer in mass production, was first asked to do the work but declined. Finally the Packard Motor Company undertook the task. The 2500 blue prints had to be converted to US mass production practices. The engine was taken apart and all its pieces weighed and measured and blue printed again with specifications brought down to the ten-thousandth of an inch. Before the first engine could be produced, 30,000 special gauges, tools and fixtures were made.

The marked effectiveness of the automotive industry in the aeroplane programme resulted from its experience in mass production.

The Ammunition Industry

Prior to 1939 the capacity of the US power plants was about enough to supply little more than small arms ammunition. Consequently, the war department had to build numerous explosives' plants. There were practically no industries that could be changed over. By the end of 1945 the government had spent more than 2.7 billion dollars in the construction and equipment of 58 new plants. With one or two exceptions all the new ammunition and explosives' plants were within the interior safety region. In this region were located the essential materials, i.e., water, power and labour.

The operations of the plants were revised from time to time to conform to new discoveries, improved methods and the changing practices of air, naval and ground warfare. Production schedules were constantly subject to change. For instance, at the beginning, a TNT line produced 26,000 pounds daily. Later, by new methods, each line produced 100,000 pounds per day.

The workers employed in these plants were predominantly inexperienced. Thousands of housewives and farmers left their homes and farms to work in these war-time enterprises and were soon manufacturing these complicated products. The war-time accident record in explosives' factories was amazingly low; it was only 7 per thousand per year as compared with 17 per thousand in chemical plants, and 25 per thousand for iron and steel enterprises.

The results of the combination of technology, management and personnel constituted almost a miracle of production. Whereas before 1939 less than 11 million pounds of explosives were produced, the rate of production during 1943-44 averaged more than 3 billion pounds per year. In naval ammunition, 53,000 torpedoes, 529,000 depth charges and 116,000 marine mines were produced. These astronomical figures represent the production necessary to supply the armed forces of the U.S.A. in a major war.

The Textile Industry

Before 1939, the textile industry, with 6000 establishments and more than a million employees, outranked all other manufacturing industries in the U.S.A. in the number of employed wage earners, and stood fourth (following food, iron and steel and automotive industries) in respect of manufactured products.

The supply and distribution of most textile raw materials were brought under the War Production Board control early in the war; production was expanded, imports were increased, and requirements were carefully screened.

Until the end of 1943 the supply situation in textile products had not warranted the establishment of allocation. During the latter part of that year allotments had to be set up for the two export claimants, Canada and the Foreign

Economic Administration. Later, as the situation became more critical, budgetary controls were set up for all claimants upon the supply of textiles, including the military.

The control system in the textile industry was never perfect, owing to difficult and varying circumstances. It was only partially converted. During the peak production years 1943-44, only about one-third of the total of the textile manufacturers shipments was earmarked for military use.

American industry was thus transformed from a system of comparatively free enterprise to one of strong government regulation.

As the pressure of military and civilian needs grew stronger, regulations, priorities, allocations, financial and technical aids and inter-industry co-ordination made their appearance. Open-bid contracts yielded to negotiated instrument. Inadequate and inflated priorities gave way to a system of stronger and better scheduled priorities and allocations. Unregulated labour recruitment was supplanted by controlled certificates of availability. Campaigns to urge smaller consumption of critical goods merged into rationing. The nation with a fortunate period of time in which to prepare, had gradually made the governmental transition and industrial conversions necessary to victory.

CAMPAIGN DIGESTS

COLONEL D.K. PALIT

II—THE CAMPAIGN IN RUSSIA—1941

POLITICAL BACKGROUND

THE German-Soviet War did not come about by chance. Hitler had always looked upon communism as his worst enemy, and had never made a mystery of his real intentions regarding Russia. The history of Russo-German relations from 1936 onwards was a history of mutual distrust and deceit, of unrestrained rivalry and hatred, and of the preparation for an eventual war. The Russo-German Pact of 1939 was a 'mariage de convenance' concluded in order to meet the immediate requirements of both parties. Hitler wanted a free hand in Poland; Stalin wanted time to build up a defence against Hitler. That Germany would eventually invade Russia had been known to all students of politics.

During the first eighteen months of the war, while Hitler was busy conquering Poland, Eastern Europe and the Balkans, Russia had been organising a buffer zone of defence against invasion from the west. The Polish Campaign gave her Eastern Poland up to the line of the River Bug. In June, 1940, Bessarabia and North Bukovina were taken back from Rumania, and in August, the Baltic states of Latvia, Lithuania and Estonia were incorporated as part of the USSR. Finally, the war against Finland won her a strategic buffer zone in front of Leningrad and the control of the Gulf of Finland.

The Finnish War proved a most useful campaign for the Russians, for it was an opportunity to gain experience of modern warfare before the expected conflict with the Wehrmacht. The number of troops used was only about 60,000, just a little more than the strength of the Finnish Army. Moreover, the Russian Lines of Communication were stretched over 500 miles, and the theatre of operations had to be supplied and maintained by one single-track railway. Under these circumstances, an easy victory was out of the question. Tactical and strategical skill had to be exploited in order to ensure the final victory. The battles against the Mannerheim Line required the use of modern methods of warfare. Most of all, the administrative system was overhauled as a result of the lessons learnt from this campaign.

After the fall of France, Russian industry was stepped up to full war production and labour was organised on a war basis. Partial mobilisation was ordered and manoeuvres were held in the border regions, especially in the strategically important territory west of Moscow and in the wheat areas and oil deposits of the South. After the German invasion of the Balkans, Russia was forced to conclude a treaty with Japan (April, 1941) which safeguarded her Siberian Frontier. All possible precautions had been taken against the expected German invasion.

In February, Zhukov was appointed Chief of Staff, and in May, Stalin assumed the title of Premier in order to conduct the war more efficiently as the centre of governmental power. Russia was determined that the short lived resistance put up by the Poles and the French would not be re-enacted on Russian soil.

THE OPPOSING FORCES

The resources of the two combatants, whether in men or material, were not known with any exactitude. For many years Russia had concealed from the rest of the world her great military potentialities. The strength of the Red Army in 1941 was probably about 160 divisions of infantry, and about 55 tank brigades (totalling about 6,000 tanks). In addition, her vast reserve of man-power enabled Russia to mobilise about 200 new divisions within six months. The Russian air strength was estimated to be about, 6,000 first-line planes.

The great advantage that the Red Army had over all the other Allied armies which had so far fought against Germany was the up-to-date state of its training. In contrast to the pre-war attitude of France and Britain, Russia had always been an ardent exponent of mechanised warfare, and was a pioneer in tactical experimentation with new weapons and new concepts of warfare.

Military theorists of the Soviet had given close attention to the use of modern tanks in battle and had developed the principles of co-ordinated mechanised warfare long before the Germans. Russian tanks included a far larger variety than the Germans, and their heavy armour dwarfed the largest Panzer tank. The Soviet Air Arm had been the first to demonstrate the tactical co-operation of aircraft and armour, and the employment of transport planes and parachute troops. As for the infantry, the Finnish War had developed ground tactics along the most modern lines and caused the introduction of the latest types of arms and equipment.

The Wehrmacht on the other hand was at the peak of its morale and efficiency at the time of the attack on Russia. It had invaded and defeated Poland, France, and the other smaller countries of Western and North Western Europe. It had raced through the Balkans, conquering its way down to Crete. The Nazi soldier came to look upon himself as a superman, and went into battle with the firm conviction that nothing could stop him.

In military strength also, German prospects were brightest at this period. Hitler was able to concentrate about 160 divisions against the Russians, including some 20 armoured divisions totalling 8,000 tanks. He sent five Air Fleets, consisting of over 4,000 first line air planes, against the Russians. In addition, the Rumanian and Finnish Armies mobilised some 26 divisions, making the total invasion strength somewhere in the region of 190 divisions.

The German order of battle comprised three Army Groups disposed between the northern frontier of East Prussia and the Black Sea, and also the German-Finnish troops in Finland :—

- (a) The Northern Army Group, commanded by Field-Marshal von Leeb.
Strength—2 Armies. The first, commanded by General von Kuchler, was given the task of occupying the Baltic States of Estonia, Latvia and Lithuania. The second was commanded by General Busch, and its role was to attack north-eastwards with the object of cutting the lines of communication of the Russian Armies in the Baltic States with Leningrad. This army had under its command a Panzer Group commanded by General Hoppner.
- (b) The Southern Army Group, commanded by Field-Marshal von Rundstedt.
Strength—2 Armies, commanded by General Stuelpnagel and Field-Marshal Reichenau. It included one Panzer

Group under General von Kleist. The Rumanian divisions in this Army Group were commanded by General Schobert. The task given to this force was to break the Stalin Line in the south and advance into the Ukraine.

- (c) The main task was allotted to the Central Army Group, commanded by Field-Marshal von Bock.

Strength—3 Armies, commanded by Field-Marshal von Kluge, and Generals Strauss and von Weichs. It also included two Panzer Groups under Generals Guderian and Hoth. The task given to this Army Group was the capture of Moscow.

- (d) The German-Finnish troops in Finland, under the command of General Falkenhorst was given the task of co-operating with the northern thrust from East Prussia, and to converge on Leningrad.

The Russians at the opening of the attack, had only three-quarters of their total strength on the German Frontier. The remainder was stationed in the Far Eastern theatre as a counter against a possible Japanese threat. The length of the front from the White Sea to the Black Sea was about 1,800 miles. The Red Army was disposed in four main groups—

- (a) The Leningrad Group—Strength about 35 divisions. The main task allotted to this group was to cover the approaches to Leningrad. It was also given the additional task of guarding the railway through the northern salient up to Murmansk on the White Sea.
- (b) The Baltic Group—strength about 40 divisions. This group was disposed opposite the German jumping-off grounds in East Prussia and Northern Poland. A few strong garrisons were also stationed in Lithuania and Latvia.
- (c) The Galician Group—strength about 25 divisions. The main object of this group was to cover the approaches from Southern Poland towards Gomel and Kiev.
- (d) The Bessarabian Group—strength about 50 divisions. This group was given the role of protecting the rich agricultural areas of the Ukraine and the industrial regions of the lower Dneister.

It is interesting to note the change in German strategy. In their previous campaigns the German General Staff had always made their object the annihilation of the enemy's armed forces on the field. In the Russian campaign they laid more stress on the territorial object. The reasons for this were that the Russian forces were far greater in number and in material strength than any of their previous adversaries, and the depth of the battle-field was so great that a war of encirclement might have taken far too long. In addition, Leningrad and Moscow in the north, and Kiev and Odessa in the south, were such important key-centres that their capture would be a major achievement and would bring German victory nearer by depriving the Russians of the resources and communications which centred round these cities. For these reasons it was decided by the Germans that in the Russian War, the territorial object would be the basis of their strategy.

The Russian dispositions were not strategically the best solution to the problem. The first point which strikes one is the small attention paid to the "Moscow front". It is probable that the Russians expected the main German effort to be directed towards the south, the agricultural and industrial resources of which the Germans had

always openly coveted. But it should have been apparent from the German pre-invasion concentrations that a determined effort was to be made towards Moscow, through Minsk and Smolensk. It was the century-old approach which Napoleon had used, and which was strategically the most decisive. Yet the Finnish Front had nearly as many divisions stationed in it as the Baltic Group, and the Bessarabian Group was allotted a much stronger force—even though the latter was faced with the largest proportion of non-German troops.

The initial strategic advantage lay overwhelmingly in German hands. The front to be covered was about 1,800 miles long, with the total numerical superiority on the side of the attackers. The Germans could concentrate at selected areas and effect a breakthrough before the defence could be organised to meet the concentrated attack. The Russians could not be strong everywhere, and would have to surrender all initiative to the Germans.

There could of course be no such thing as the "continuous line" on the Russian Front. The length of the frontier and the tactical doctrines of the Red Army would have been incompatible with the "continuous line" theory. The Russian defences were organised in a series of belts of concentrated areas from north to south. The Russians made use of every river, or any other natural obstacle, as a line on which to check the offensive, but presented no solid front at any spot on the frontier. Their defensive arrangements were devised to canalise the attack, to wrest the initiative of movement from the enemy, and to direct them to pre-selected areas where concentrated fire could be brought to bear on them, or where they could be counter-attacked by concentrated formations of reserves. The defence was not passive and rigid, but aggressive and mobile.

THE INVASION

At dawn on Sunday 22 June, the Luftwaffe began their attack on Russia. The invasion by land started later in the same day with the main drive from Poland towards Moscow and the advance on the Baltic States.

The main drive on Moscow began with a limited double envelopment move, which was to close in east of the Bialystok area, led by the armoured columns of Guderian and Hoth. The northern arm of the pincer was to attack via Vilna, and the southern arm in a south-easterly sweep across the Narew. In the centre a third offensive was aimed at Grodno and Minsk. The attacks were made by armoured columns which raced ahead without waiting to be caught up by supporting troops or the administrative services. They lived off the land, whilst depending upon air supply for their petrol and ammunition.

At the end of the second day, Grodno had fallen and the Germans were already pushing further east. The northern arm of the pincer faced some bitter fighting at the outskirts of Vilna, but finally captured it on the third day. The Southern arm had taken Brest-Litovsk and Baranowice, which was an important strategic railway junction.

In the Baltic States area, the Russian forces holding the Lithuanian frontier had been cut in three places, and by 24 June, the northern arm had advanced some 60-80 miles into enemy territory. It overran Lithuania and Latvia without much trouble and reached Dvinsk, an important crossing on the Dvina, on 26 June. They had advanced 175 miles in 5 days and captured the important port of Riga on the Baltic Sea.

In the South, the Germans did not meet with such success. An Easterly thrust from the Przemyśl area was held up at the River Styr, and another thrust which aimed

at cutting the lines of communication of the Russian troops in the salient between Przemyśl and Bessarabia, was held up within a few miles.

The attempts to cross the River Pruth into Bessarabia were also checked. The Russians felt quite secure against the Rumanian troops in this sector, and even made several sorties across the Danube in the extreme south. Rumanian oil fields were heavily bombed by the Red Air Force which caused serious delays in the German administrative chain in this area. During the first week therefore the position on this front was unchanged, with the Russians in complete control of the situation.

The Red Army met the German advance everywhere with fierce counter-attacks. In most cases the Russian defences were able to hold back the German infantry, thus separating them from the armoured spearheads. The armour was canalised into pre-selected anti-tank defences, whereas the infantry were counter-attacked by local reserves and thrown back wherever possible.

Out of these battles developed the modern defensive tactics of today—i.e., zonal instead of linear defence. In the campaigns in Poland, Western Europe and North Africa, it had too often been the custom to surrender as soon as tank penetration of the defences had been effected by the enemy. The Russians on the other hand did not let the German armoured break-through, however deep it might have been, affect their resistance in the front area. The defences had been organised in areas over which the battle swayed back and forth. Novel situations arose, where battles sometimes raged simultaneously at places 80 or 100 miles apart along the same route. The defences in depth tried to stop the armoured column, whilst the Soviet forces still at the front fought to prevent the tightening rings of German consolidating forces. Thus there were numerous instances where large isolated detachments kept fighting at the frontier as guerillas for weeks after the war had passed them by.

Meanwhile, the battle developed fiercely in the Minsk sector. After several great tank battles in which each side suffered considerable losses in armour, Minsk was reached on 30 June. The Germans were now well inside the "Stalin Line".

(The "Stalin Line" was a belt of defences organised in great depth, the rear boundary of which lay roughly along the line Pskov-Ostrov-Vitebsk-Mogilev-Gomel and down to the line of the river Bug near Zhitomir). The complete encirclement of Minsk involved a penetration of the Stalin Line, though not in the same sense as the penetration of a line of continuous fortifications such as the Maginot Line. In the Minsk area, for instance, the Stalin Line was over 100 miles in depth—from Minsk to Gomel.

In the extreme north, the threat to Leningrad from the Finnish Front had been very remote, and no significant battles were fought in the earlier days. On 2 July, however, an attempt was made to advance upon Murmansk, but the enemy were quickly repulsed by the Soviet garrisons.

The northern arm of the Bialystok pincer, it will be remembered, had taken Dvinsk and crossed the Dvina. It now turned south-eastwards in an attempt to close the move.

The southern arm of the pincer in the Minsk area now suddenly came to life and thrust forward. So far, it had advanced fairly slowly, taking Brest-Litovsk and Baranowice. It now thrust forward towards the Beresina River and captured Bobruisk on 1 July. The Russians had however held the line of the river very strongly, and resisted all German attempts to cross it. The enemy then tried a large scale crossing further north, at Berisov, but again found the defenders too strong. For several days a heavy battle raged all along the river, the Germans suffering terrific

losses in men and material. The Russians claimed the annihilation of two complete Panzer divisions.

The Germans tried to cross the river still further north, in the hope of gaining advantage from the movements of the more successful northern arm of the pincer. But here also they met with failure, and it was eventually decided to leave it to the northern arm to continue the thrust towards Smolensk.

The pressure in the south had also increased. During the early days of July Luck had fallen. The German advance eastwards continued in spite of heavy opposition.

At the town of Novograd however they were held up. The siege of Novograd was one of the most heroic resistances during these early days of the war. Day after day the Germans tried to batter down the buildings of this city but the defenders stood firm. In the south-east the advance was able to continue, but at Novograd they had met their match.

On the Bessarabian Front, fresh activities broke out on the 1st. On 2 July, a heavy attack across the Pruth carried the Germans well into enemy territory. The Russians however were not to be rushed and though they gradually fell back to the Dniester they fought hard and inflicted heavy casualties on the enemy all the way. It was not until the 10th that the Germans claimed that they had established a front along the river line.

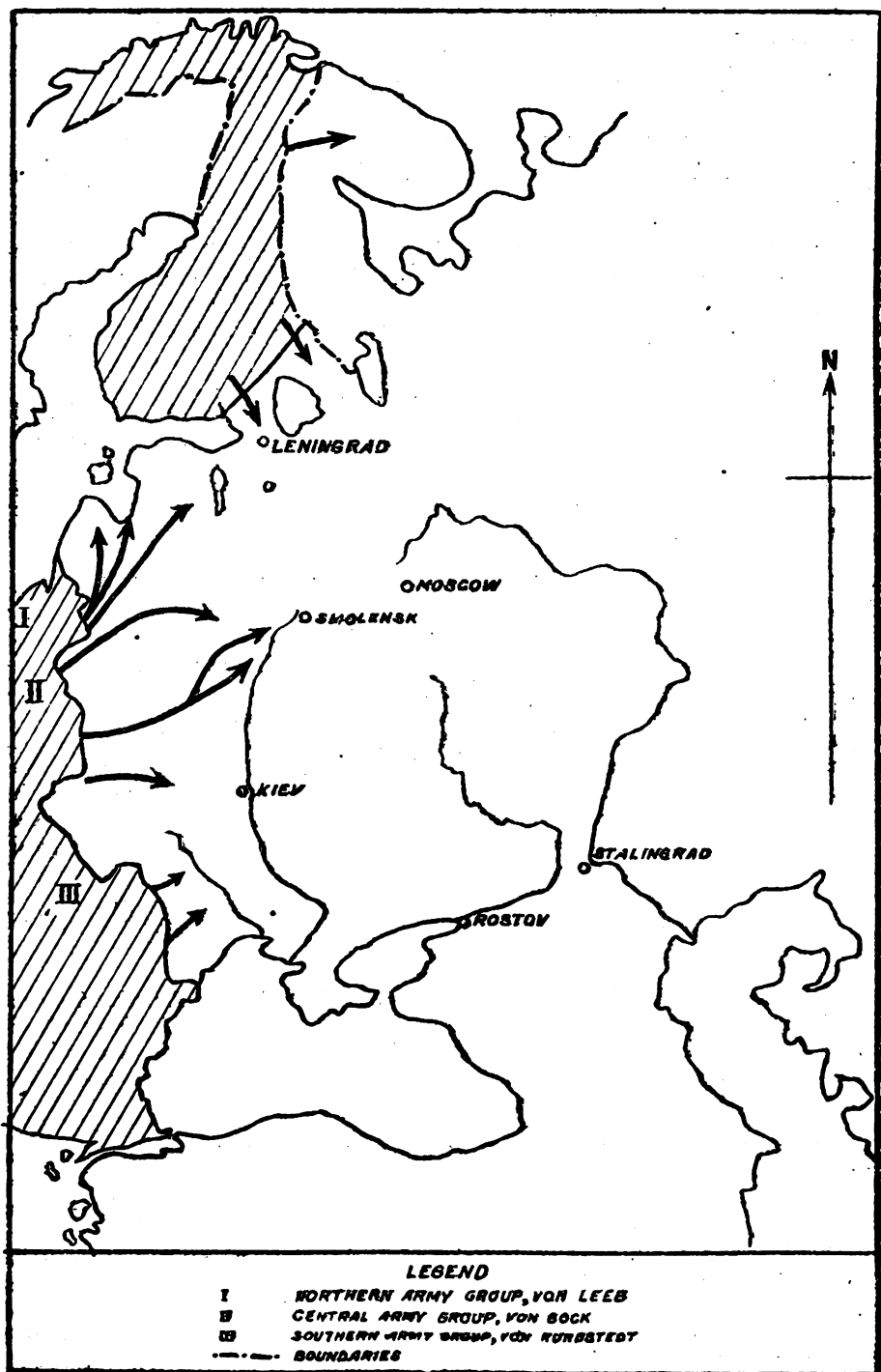
The first stage of the campaign was now over. The initial force had undoubtedly spent itself. Hitler had planned a swift breach of the frontier defences, and a hurricane advance into the agricultural and industrial key-centres. That hope had now definitely been abandoned. The story of Poland or France was not to be repeated after all. On the 10th the Russians announced a gradual dying down of the offensive. Of course the fighting was still severe, for the Germans had everywhere entered the Stalin Line; but the war of movement had been stabilised. The main areas where fierce fighting still continued were the Minsk sector, where the southern pincer arm was still trying to force a crossing; at Novograd; and on the Dniester in the extreme south. Moreover, numerous "islands" of resistance were still holding out in the frontier areas, and were likely to go on holding out regardless of the depth of the German penetration.

THE BATTLE OF SMOLENSK

The end of the first phase of the campaign proved for the first time that German blitzkrieg methods could be defeated if met with good training, organisation and tactics. The battle of the frontiers showed that the initial break-through does not necessarily decide the issue; on the contrary, against a determined and up-to-date adversary, it can be halted and cancelled out.

The battle of Smolensk was the first battle of the war which was fought over a stabilised front. For over two months the battle raged in the same area, and in September the front line still ran between approximately the same two points—from Vitebsk to Bryansk. It was no longer blitzkrieg, fast moving mechanised warfare, but a battle in depth where massed armies of modern infantry were fighting each other. It is true that Guderian and Hoth did try their armoured break-through tactics, but it brought them no decisive advantage. Armour began to be used more and more as a support for infantry rather than as the winning spear-head. It was in this type of warfare that Soviet battle methods found their full expression and were able to defeat the German object.

GERMAN ADVANCES UP TILL 10 JULY



At the beginning of this phase the German advanced positions lay just within the old Russian frontier. The penetration was deepest in the central front, on the Beresina, (about 100 miles into Russian territory at Bobruisk), and the least in the extreme south. Nowhere on the southern front were they more than 30 miles inside Ukrainian territory. In the Baltic states area, initial penetration had been rapid but in no great strength. The general line of advanced positions lay along the river Dvina.

On 11 July, the Russians announced the formation of three command zones—the north-west under Voroshilov, the centre (north of the Pripet Marshes) under Timoshenko, and the south-west under Budenny.

The three main objectives of the second phase of the German offensive were Leningrad, Smolensk and Kiev. The impetus of the first phase having died down about 10 July, the Germans gave up any further attempts to cross the Beresina or the Dneister.

On the Smolensk front, Von Bock now started to search over a wide area in the hope of finding a weak spot in the Russian defences.

About 50 miles south of Vitebsk the River Dnieper makes a sharp bend to the east at Orsha, thus leaving a gap between it and the Dvina. The Russians had made the mistake of relying too much on the line of the two rivers at this part of the front, and consequently this gap was a weakness in their defensive layout. Von Bock found this weakness, and it was here that he directed the spearhead of his attack. The main infantry thrust was directed against the river line south of Orsha, whilst an armoured column entered the gap and attacked the river defences east of Orsha in a southerly direction.

It is to be remembered that besides his two Panzer experts, Guderian and Hoth, von Bock had under him three of the most experienced army commanders—von Kluge, von Weichs and Strauss. All three had taken notable parts in previous campaigns.

The main thrust south of Orsha was held up by the Russians, as indeed von Bock had expected, but the spearhead forced a crossing of the Dnieper and headed south in an encircling manoeuvre to outflank the Dnieper defences south of Orsha. The advance southwards was made easier by the excellent road from Orsha to Mogilev. Mogilev was reached by the 14th and though no important territorial objectives were taken, this southern thrust was able to cut, temporarily, the lines of communication of the Dnieper positions.

This southern thrust was, in its turn, a protective and containing measure for the advance on the main objective—Smolensk. From the Vitebsk-Orsha area, there are two main roads towards Smolensk, one north and one south of the Dnieper. The southern one was the worst, and therefore the more unexpected, approach. The German Panzers advanced up this road, and reached the outskirts of Smolensk about 18 July. The defenders fought heroically, and every inch conceded was bought at the price of heavy German casualties. The two months' battle for Smolensk had begun.

The armoured thrust itself continued eastwards, by-passing the Smolensk area, and reached Vyasma, just over 100 miles west of Moscow, on the 27th. Here the Germans encountered the first of a series of great counter-attacks by the Red Army which finally stabilised the second phase. The armoured spearhead was thrown back and the German lines of communication between Orsha and Smolensk cut in several places. For the next seven weeks the battle raged back and forth over the

area of the Upper Dnieper, with Smolensk as the centre of the conflict. The Russians fought to straighten out the salient in the gap and kept up the pressure against the Nazis by frequent and heavy counter-attacks, whilst the Germans sought to deepen the penetration and broaden the wedge to north and south.

German losses began to mount up, and they realised that it was becoming increasingly difficult to make any headway in this sector. The pressure which had been simultaneously applied in the Baltic and Ukrainian fronts had been rewarded by more substantial successes. The decision was taken at last to concentrate on the successful fronts, and to break off the main offensive in Smolensk. The Germans had appreciated by now that the Russians had built up most of their reserves behind the central sector, and that it would be more profitable to attack elsewhere.

This is not to say that they stopped their pressure on the Smolensk front completely. The fighting continued unabated, and at the same time the German General Staff began to build up reserves for the greatest of all offensives which started 8 weeks later. The switch-over to the flanks was only a temporary measure to exploit their initial successes in those areas.

The battle of Smolensk was a victory for the Red Army, its first great victory in the Second World War. It was also the first major defeat for the Wehrmacht. The victory was not total, it is true, but in more ways than one were the effects of this battle responsible for the defeat of German designs on Moscow. Heavy casualties had been inflicted on the enemy; a new technique of defence had been finalised which proved effective against blitzkrieg for the first time; the Red Army emerged from this battle enriched in experience and restored in morale.

THE BATTLE OF LENINGRAD

After the failure of the central offensive, the German General Staff recast their plans, and based their operations on the extreme flanks in the north and south. In both these areas the initial thrusts had met with a reasonable amount of success.

The Leningrad offensive was carried out at the same time as the Ukrainian operations, reaching its climax about the beginning of September, 1941.

The battle of Leningrad was planned with several subsidiary objects:—

- (a) The primary object was the capture of Leningrad. Not only was it the largest industrial area in the north, but it was also an important naval base (Kronstadt).
- (b) The joining up of the Finnish and East Prussian fronts, so that a continual ring of pressure could be brought to bear on the northern armies of the Soviet Union.
- (c) Cutting off the rest of the Union from all its northern ports—Leningrad, Murmansk and Archangel—and the eventual occupation of all these ports.

The main strategical object was a gigantic envelopment of the Central Russian front by deep pincer moves from the extreme north and south. It was not the intention to abandon pressure on the Moscow sector, but this grandiose plan of envelopment was calculated to be a co-ordinating measure which would ensure the collapse of the Moscow front. The plan sounds very ambitious, involving a 3,000 mile enveloping move by each arm of the pincers, but it was very real in the minds of the Nazi High Command.

In its first stages, the advance through the Baltic States had been a comparatively easy task for the Germans. The Russian garrisons were not disposed in any strength in this area, the roads and railways were ideally laid out, and the southern flank of the advance was protected by the Minsk offensive. The people also were not as hostile as the Russians, and once Riga had been captured the maintenance problem was much simpler. By early July, the conquest of Lithuania and Southern Latvia up to the line of the Dvina River had been completed. On the 9th a column which had crossed the Dvina at Jacobstadt, captured Ostrov and reached the northern end of the Stalin Line.

Further north, the attack along the Russo-Finnish frontier had made little progress, though the occupation of Riga had simplified the problem of reinforcements and supplies to the Finnish theatre.

Such was the position in the north at the end of the first phase of the campaign.

When it was decided to withdraw pressure temporarily from the central sector, a fresh attack in the north had already been planned. It now took the form of a double offensive against Leningrad—one from the Finnish front and the other from the area of Lake Peipus. South of the Lake, the Germans succeeded in breaking through to Pskov; from there they made a heavy thrust towards Porkov, about 50 miles further east. In the north, an attempt was made to occupy the territory which separates Lake Peipus from the Baltic, by advancing up the line which links Tallinn with Leningrad.

The Red Army offered heavy resistance to both these thrusts, as they were a direct threat to the northern capital. Fierce fighting continued till the end of July, but the Russians were gradually driven back. The marshy terrain south of the Lake was a disadvantage to German armour and progress was necessarily slow. North of the Lake, however, the offensive developed well until it reached Lake Luga where it was temporarily halted.

In the meanwhile two new attacks were launched from the Finnish Theatre, one against the Karelian Isthmus and the other towards Lake Ladoga. On 15 Aug, Sortavalla, at the northern end of the Lake, was captured.

The attack south of Lake Peipus increased in intensity. On 10 August, armoured forces broke through to Solsti, from where they continued the advance to Staryia Russa, south of Lake Ilmen. The Russians were compelled to withdraw their defences to meet this new threat to Leningrad from the south. An attempt was made to organise a defensive ring round Leningrad, roughly along the line of the three Lakes, Ladoga, Ilmen and Peipus, but the continued pressure from three directions sapped their strength.

On 21 August, the Nazis announced the capture of Narva and Kingissep. The latter was an important centre of communications, and strategically a key-position in the defence of Leningrad. Novogorod, north of Lake Ilmen, also fell on the same day, and two days later the thrust south of Lake Peipus linked up with the northern column at Kingissep. At the same time the Finnish-German attacks on the Karelian Isthmus began to make progress, tightening the ring around the besieged city.

By 6 Sept, Leningrad had been completely encircled, the column from Lake Ilmen having advanced up the Volkhov River. Leningrad, already under shell fire for many days, now faced the greatest siege ever laid in military history.

The city was shelled from the sea and from land, and bombed heavily from the air. The attacks by heavy bombers at times resembled the heaviest bombings during

the battle of Britain. For months, tanks, infantry and specially trained assault pioneers attempted to break the city's resistance, but failed.

The Leningrad front did not give way. Voroshilov appealed to the people to organise themselves in defence bands; every man, woman and child was given a hand in the city's resistance. Leningrad was the first important city the Germans failed to capture, even after months of siege. Until Leningrad, not a single fortified area in all Europe had been able to withstand the new German assault methods. Even Smolensk, which had repulsed the attacks by the Wehrmacht from July to September, fell at last during the advance to Moscow. Not only was Leningrad able to hold out, but from the defensive it turned to the offensive. Strong counter-attacks were sent out during the ensuing winter months, and the siege came to be known as the "Permanent Battle of Leningrad" and cost the Germans heavily in casualties. By the end of the year the Russians had estimated over a quarter of a million Germans killed or wounded in the city's battles.

The defence of Leningrad undermined all Germany's plans for the grandiose enveloping operations to cut off the central sector. Too many German troops were tied up by the siege for there to be any hopes of success for a northern drive to Murmansk and further. There could never be a large-scale drive in the north after the fashion of the campaign in the Ukraine. In fact by October it became necessary to start withdrawing troops from this front. German dreams of grand envelopment were finally shattered.

THE UKRAINIAN CAMPAIGN

The campaign in the Ukraine revealed another change in the strategy of the German General Staff. In all its battles so far, the object of the Wehrmacht's offensives had always been a military one. Only military considerations had governed strategy; all other factors were made subservient to military necessities. In the Ukraine however the German theories of Geo-politics, Lebensraum, Pan-Germanism and economic gain, began to assume importance and to guide military strategy. It is true that the drive towards Rostov and the Crimea was made with the primary object of providing a southern arm for the grand pincer movement from the north and south, but the motivating factor behind it all was the greed for economic hegemony of the Third Reich. The agricultural products, the raw materials and above all the oil, of Southern Russia, gave this campaign seeming importance out of keeping with its actual strategic value.

The main strategic object of the Germans was still the capture of Moscow. In military value, the central sector was still the key-position for victory. The Ukrainian campaign proved that the Nazis had temporarily overlooked this fact, and had spent too much of their resources in men and material pursuing their strategy of geo-politics; their "war for colonies" in the south. At one time the entire right wing of von Boch's Central Army Group was being used to co-operate with von Rundstedt.

While German strategy permitted itself to be led away from the maintenance of its aim, it is interesting to note the change in Soviet strategy, which now swung over in the opposite direction. At the beginning of the war as we have already seen, the Red Army High Command had attached more importance to the southern than the central front. They had also been led away by the economic importance of the south, and had assumed that the decisive battle for Russia would be fought out in the Ukraine. As the war progressed however, Stalin realised the importance of keeping military considerations uppermost when making a military appreciation. He realised that the strategic key to the Russian campaign was Central Russia and Moscow, and not the rich south. He accordingly began to concentrate his reserves and other resources

in the central sector, at the expense of the Ukrainian front. The result was that while the Germans strengthened their armies in the south, the Russians withdrew troops from there to reinforce the centre. This move caused the Soviet Union immense losses economically, but there is no doubt that it played a large part in the ultimate defeat of the German plans. A Moscow victory was a military necessity; the loss of the Ukraine was temporary and indecisive.

The Ukrainian campaign lasted four months—from early August 1941 to the capture of Rostov in mid-November. It saw the deepest penetration of the Wehrmacht into Russian territory so far—some 700 miles. It was a campaign of fast movement, of large spaces and of armoured supremacy—a campaign after the heart of the mobile Wehrmacht.

At the end of the first phase of the Russian campaign, after the dying down of the battle of the frontiers, the position of the Russians was hopeful, for they found themselves well ensconced in the middle of their main defensive zone. The Galician thrust from Przemyśl had met with a certain amount of success, and had advanced up to the approximate line Novograd-Tarnopol. The Bessarabian thrust had been held at the Dniester and although much confused fighting had followed the end of the first phase, the Germans were unable to make much progress. The line on 10 July ran roughly from Novograd, down through Tarnopol, to the Upper Dniester at Mohilev, and then along the Dniester to the Black Sea.

During the second week of July however, a concerted German-Hungarian-Rumanian drive was set in motion against Kiev, in co-ordination with the attack on Smolensk. The advance from the Bessarabian front was of secondary importance only. The main object in the south was Kiev, the capital of the Ukraine.

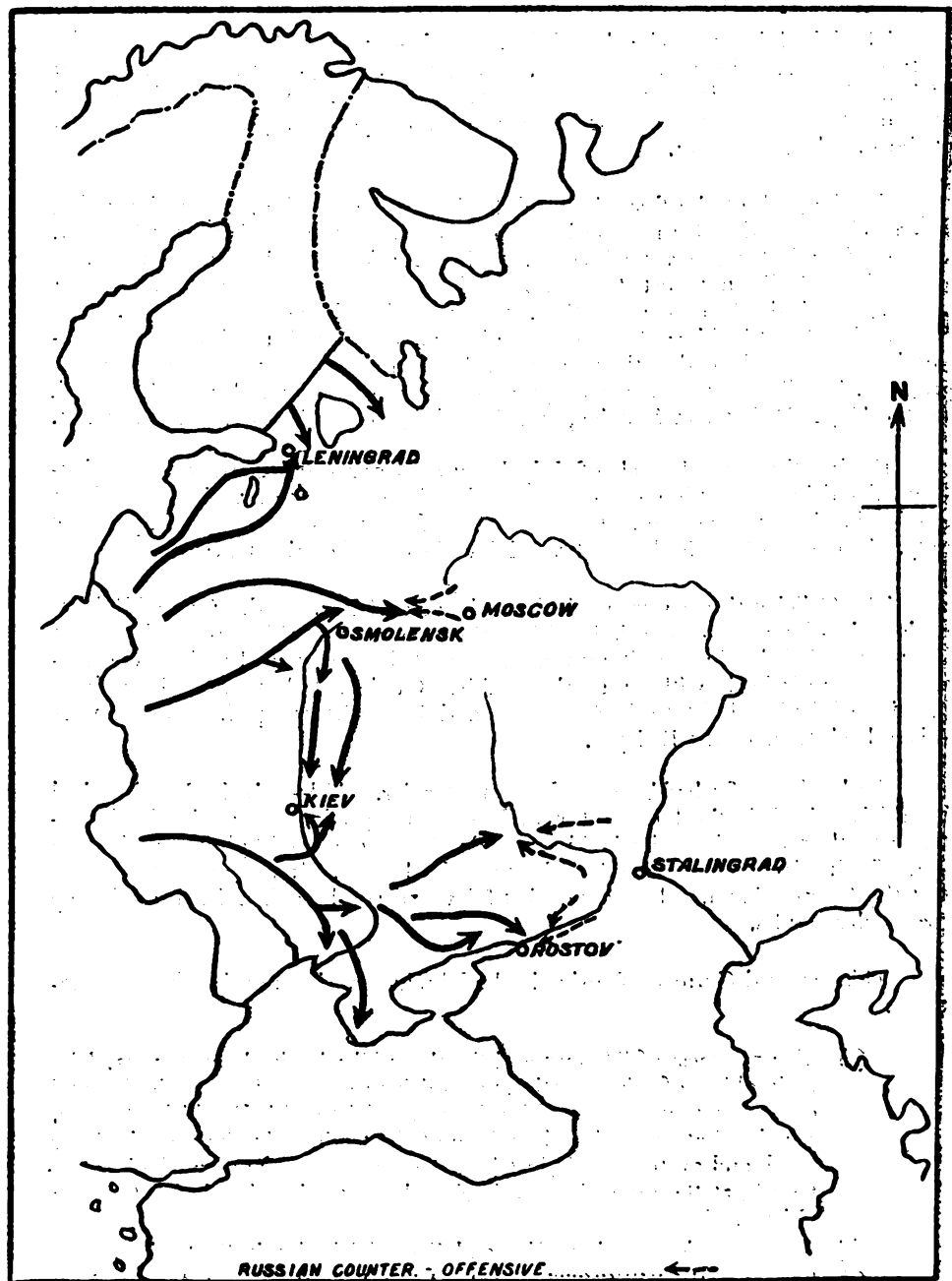
The Galician thrust was made from the area of Novograd. One of Reichenau's tank columns succeeded in breaking through and reaching the suburbs of Kiev on 16 July, but as it was unsupported by infantry Russian counter-attacks drove it back without much trouble. On the 20th however, the railway junction of Zhitomir fell to the Germans, and the Soviet troops in that area were driven back towards the Dnieper.

The battles so far had been far from spectacular. Although the Russians had been driven back in the Kiev sector, and Bessarabia gradually occupied in the extreme south, no decisive gains had been made. In the confused fighting in the area of the Stalin Line, casualties had been heavy on both sides. It was not until August that the German hammer-blows aimed at Kiev and southern Ukraine brought any spectacular results.

This renewed German offensive in the Ukraine consisted of three great operations :

- (a) The conquest of Western and Southern Ukraine in August, 1941. The main object of this operation was a drive to the sea in an encircling and dissecting move—a repetition by von Kleist of his Dunkirk strategy. He aimed at occupying the whole of the territory in the great Dnieper bend, and capture the industrial centres of Kirvov Rog and Dniepropetrovsk, at the same time as driving down to the Black Sea Coast at Odessa.
- (b) The operations against Kiev and Central Ukraine in September.
- (c) The operations in Crimea and the drive along the sea of Azov to Eastern Ukraine, in October-November.

GERMAN ADVANCES IN WINTER 1941



In the first phase, von Rundstedt struck south of Kiev, with von Kleist's armoured columns racing ahead. The numerical superiority of the German ground forces over the Russians was not very great at this stage, but the Luftwaffe was able to achieve local air-superiority, which gave the Wehrmacht a decisive advantage. (An interesting feature of this campaign was the large-scale use made of aircraft in the pursuit role. Fighters and dive-bombers were used in large numbers in co-operation with pursuing armour, to inflict casualties on and disrupt retreating Russian columns).

After by-passing Kiev, the German thrust veered south-east in the direction of Kirvoi Rog. Uman was taken in the beginning of August, an operation which cost the Russians 100,000 prisoners. Plunging deeper into the Dnieper bend, the Germans took up the pursuit by fanning out in two directions; one column proceeding to occupy Nikolev on the Black Sea, (14 August), and the other advancing on Kremenchung, which fell on the 29th. The Russians were also forced to evacuate from Dniepropetrovsk, blowing up the biggest power plant and dam in Europe.

One German-Rumanian Army laid siege to Odessa, whilst a second marched on Perekop and invaded Crimea. By the end of the month, the Ukraine had fallen to the Wehrmacht except for Kiev and Odessa. Odessa itself did not fall immediately. It held on for two months more, and became a second Tobruk, tying down large numbers of enemy forces. The drive to the Dnieper bend also was not a great success in strategy, for though it drove a large wedge into the Russian defences, it was not by any means a fruition of the enveloping scheme that the Germans had planned.

In mid-September came the great encirclement operation against Kiev—the second phase of the Ukrainian campaign. The preparations for this campaign had been very detailed and systematic. The Army Group under von Rundstedt co-operated with the right wing of von Boch's army—one army under Weichs and a Panzer Corps under Guderian. Great numerical superiority was built up in the decisive place, both on the ground and in the air.

The operation itself was a double envelopment, consisting of an outer and an inner encircling arm from both the north and the south. From the north, Weichs provided the inner arm from the direction of Mogilev, through Gomel, moving on to Kiev, whilst Guderian's Panzer Corps was the outer arm. He struck from the area of Roslavl, through Mglin, to Lohvista. Von Rundstedt's Army Group started the attack from Kremenchung, the inner arm swerving left to Kiev, and the outer arm advancing on Lohvista to establish contact with Guderian.

The operation was a complete success, tactically. Of Budenny's five armies, the greater part of four was either killed or taken prisoner. The Germans claimed the capture of over half a million Russian troops. Whatever the correct figure was, there is little doubt that the Red Army suffered a major tactical defeat.

Strategically however, the capture of Kiev gave the Germans no decisive advantage. It did not further their plans for the grand envelopment; it gave them no direct advantage for the drive against the crucial central front, for von Bock's central armies were themselves involved in the battle of Kiev. As for the Red Army, strategically it lost no more than it had expected to lose. Its reserves were still piling up in the central sector. Their calculations for the coming offensive against Moscow had allowed for the abandonment of the whole of the South.

The last phase of the Ukrainian campaign began in the early days of October. The Germans continued in their drive to the coast of the Sea of Azov. On 8 October, they reached Berdyansk; but by then there were no hopes left for a Russian

Dunkirk. Budenny had been able to withdraw most of his troops to the Don Basin, and left the defence of Southern and Eastern Ukraine in the hands of organised guerrillas. Rundstedt attained his territorial object—but no great military victory.

Odessa was finally evacuated on 16 October, after nearly two months of siege. German successes followed each other in quick succession—Toganrog fell on 23rd; Kharkov, second most important trade centre of Southern Ukraine, on the 24th; Kramatorskaya on the 27th. On 30 October, began the fight for the occupation of the Crimea under General Mannstein.

This thrust had taken the Germans about 400 miles from their last base in the Galician front. The problems of maintenance were being made more and more difficult by the numerous bands of organised guerrillas which kept up ceaseless warfare against the invaders. The scorched earth policy of the Russians precluded any efforts on the part of the Nazi soldiery to live off the country. Under such circumstances, the offensive was bound to die down. Towards the beginning of November, the swift thrusts of the armoured columns were replaced by localised infantry offensives and efforts at consolidation.

When Timoshenko found Rostov threatened by Kleist's and Mannstein's joint offensives, instead of defending the city he withdrew most of his troops to organise a counter offensive. Towards the end of November, he unleashed a powerful counter-offensive on a 120 mile front and recaptured Rostov. The Northern arm of his thrust, in the area of Kharkov, had the additional effect of relieving the pressure on Moscow. The Nazis were forced to retreat over sixty miles all along the front in order to avoid encirclement. For the first time in the war they had come up against an enemy who could counter-attack in strength, and maintain the offensive over long distances.

THE BATTLE OF MOSCOW

After the encirclement of Kiev, von Bock's armies turned towards Moscow in the greatest and most complex offensive of the war so far. These manoeuvres were personally directed by Hitler, who broadcast to his men on 1 October, "Today is the beginning of the last great decisive battle.....which will completely annihilate the enemy".

The Moscow offensive was to be conducted in two main parts. The first was to be a gigantic double envelopment move from North and South, with the object of annihilating Russian counter-offensive troops which had reached the line Vyazma-Bryansk in their efforts to recapture Smolensk. Besides this double-encirclement move, there was the main drive to Moscow under von Bock, with over thirty infantry and about twelve Panzer divisions.

The double-encirclement move consisted of two outer thrusts by armour, which were to cut off the retreat of the Russians. The inner arms were the motorised and light divisions under von Kluge, who would drive forward through the Russian defences, split them in two and then drive each half north and south against the jaws of the armoured arc.

The battle began on 30 September by Hoppner's and Guderian's armoured sweeps as the outer arms of the pincer. Hoppner struck from the direction of Vitebsk, and aimed to cut the road between Moscow and Vyazma. Guderian struck from the Kiev sector towards Orel. It was their intention to make contact with each other somewhere west of

Bryansk. In the centre, Kluge's infantry and motorised columns drove straight through to the Russian rear, and then circled the flanks north and south. The operation would have been a complete success, had the depth of the attack not been so great. The circumference of each half of the pincer was over 150 miles, and large numbers of Russian troops were able to slip through the inevitable gaps in the encirclement, and join the Moscow defences. The Germans however, claimed the annihilation of eight Russian Armies and the capture of 700,000 Soviet prisoners.

For the main attack on Moscow, Field-Marshal von Bock had been allotted two army groups, the Seventh and the Fourth. The total troops under him for this operation were about thirty-three infantry and motorised divisions, and twelve Panzer divisions.

The Seventh Army Group advanced along a line about fifty miles north of the Smolensk-Moscow road, and the Fourth Army Group, again placed under von Kluge, along a line some sixty miles to the South. The jumping off area was roughly two hundred miles west of Moscow, along the line Yartsevo-Roslavl. This attack started on 5 October, and by the 15th the Nazi tanks had broken through in the centre to reach Mozhaisk, only about sixty-five miles short of Moscow.

By this time however, the best troops of the USSR were concentrated before the Soviet capital. Stalin declared a state of siege, and charged Marshal Zhukov with the defence of Moscow. (Timoshenko had already been sent south to defend Rostov; Voroshilov and Budenny had been sent east to organise new armies).

Stalin gave the order that Moscow would be defended to the last. The citizens of Moscow were called to volunteer, and every spare body was sent out to organise the defences. Women and children dug trenches and anti-tank ditches. The Red Army, attacked by five Panzer armies, could not have stood its ground were it not for the intricate network of anti-tank ditches dug in depth by the citizens of Moscow. For six weeks the battle raged. As more tanks were thrown in by the Nazis, Zhukov brought up more and heavier artillery. At Tula, battalions of workmen, young and old, untrained and armed only with rifles, flung themselves into front line defences. In the end, Russian man-power proved too strong for the Nazi tanks. The momentum of the attack died down, and it was clear that the attack on the Moscow front would not succeed.

Von Bock therefore reorganised his forces for a last fling—a concentrated envelopment of the city proper. His plan was to hold the city-front with the bulk of his infantry, and to execute two swift pincer moves immediately north and south of the city. This assault started in the third week of November, but Zhukov had been able by then to bring up some of his trained reserves. The northern pincer pushed 25 miles east to Dmitrov, cutting the Moscow-Leningrad highway. The southern pincer under Guderian by-passed Tula, and turned north to enter Moscow from the rear; but by then Zhukov's reserves had passed from passive to active defence, and Guderian had to withdraw in order not to be cut off. The Germans had been able to fling two great arms round Moscow, but the grasping hands never met.

Zhukov organised a series of swift and limited counter-attacks in all directions, so that the Germans were kept guessing as to his real intentions. The winter had also set in by now, and heavy snow covered all the roads round Moscow. The Russians, with their ski-planes, and stoves to warm the oil in their tanks and vehicles, gained superiority over the efficiency of the Wehrmacht. Moscow had been saved.

In the north, Leningrad had held out. Only in the south were the Nazis able to make headway again, but with no great strategical advantage, for by January the Red Army had begun its winter offensive in the central sector.

COMMENTS

The German Army which invaded Russia was the most formidable machine the war had yet seen. The planning had been thorough, and the executants of those plans were some of the ablest Generals that Germany had yet produced. How then was success withheld from them?

The first answer is certainly that the Nazis committed the grave error of underestimating their enemy. Because of the unspectacular performance of the Red Army against the Finns in the winter of 1940-41, the Germans had thought that once their armoured hordes had penetrated the Stalin Line, and encircled the frontier defence-areas, the Red Army would fall to pieces. They also thought that once the Stalin Line had been overrun, the sectors it guarded would be open. Thus, it is seen that as early as in the first week of the invasion, German communiques announced that the occupation of Kiev was convenient, the route to Moscow was open, and that Leningrad was imminently threatened! It was also reported in Berlin on July 17 that the Russians were throwing in their last reserves.

So great was their assurance, that the Germans reported, and themselves believed, colossal casualty figures for the Russians—figures which could not possibly have been true. By 6 August, the Nazi Army claimed to have liquidated four million Red Army soldiers, mostly killed!

Germany's early successes went to her head, and so intoxicated did she become that it was no longer possible for her to measure her achievements reasonably. On the other hand, it must be acknowledged that she had achieved definite successes, even if not to the same extent as claimed. The Wehrmacht did break through to Kiev and Rostov, and Moscow and Leningrad were in fact eventually threatened. It remains now to be seen what went wrong after those initial successes.

About mid-September came the great Kiev operation, perhaps the greatest encirclement operation ever carried out successfully by the Wehrmacht, and certainly the most brilliant action to be credited to German generalship in this war. The operations eastwards from Kiev were also a success; but both these offensives were fantastically exaggerated in their importance in the German dispatches. The battle of Kiev was not decisive, neither for the whole campaign, nor even for the Southern offensive. In the same way, the successes in the Ukraine had little effect in the central sector. They gave the Nazis important territorial gains—but not the military decision. They inflicted upon the Russian Army great losses in men and material, but they failed to break its resistance. It should also be remembered that however spectacular the successes may have been, the main object of the drive was not achieved. The Southern arm of the gigantic pincer movement had been halted.

In the north also, the main object had been perforce abandoned. They failed to take Leningrad in the first onslaught as planned, and the subsequent siege tied down the German forces and prevented broad operations on the Northern front. There were no break-throughs to the East from Lake Ladoga; nor even a link-up with the Finns, which would have created a joint German-Finnish Front. Finally, General Hoppner's tank army had been withdrawn from this front, for the Moscow battle. This ensured that there could be no large scale offensive in the north. The great German strategy of envelopment was abandoned at the gates of Leningrad.

The development of area defence, as incorporated in the Stalin Line, has already been discussed. The other new element in Russian tactics was their manoeuvre with defence positions, and their elasticity in organising anti-tank measures. These were fully exploited in the defence of Moscow, and was the main reason for the repulses suffered by the Germans. With incredible speed, new defence positions, incorporating

GENERAL MAP OF WEST RUSSIA

SCALE 1 INCH = 100 MILES

MILES 160 80 0 160 320 480 MILES



stone and steel obstacles, pillboxes and fortified trenches, were built around Moscow. When Tula was threatened, similar defences were organised on that front in a matter of days. Similarly, all along the front, fresh defences were raised, orientated according to the direction of the German attack.

The Soviet infantry was hurriedly trained to adopt anti-tank roles. Many battalions became specialist units—trained in the rapid erection of anti-tank obstacles, and in tank-hunting tactics with hand grenades and “Molotov cocktails”. Large formations of specialised tank destroyers were later raised from these units. Infantry fighting against massed tank attacks was demonstrated for the first time on this large scale.

Lastly, the Soviet Army held the Moscow front by saving their reserves until the enemy was exhausted. During the long retreat from the Polish Frontier, the Soviet High Command must have been tempted many times to throw in their Central Reserves to stop the Nazi advances. Timoshenko, when sent to the Southern Front, had restored the situation to a certain extent by putting in his counter-attacks. The reserves used however had been local. The main central reserves had been kept by him in the Central Front, for such a contingency as the Moscow push. When Zhukov finally put in his counter-offensive, he was able to carry it out with seven armies and two cavalry corps. The exhausted German Army, stretched out far beyond their bases, could not withstand the determined onslaught of this mass counter-offensive. The German front rolled westward, and by the middle of December, their offensive had been turned into a rout. With the recapture of Klinn and Kalinin, and the German withdrawal from the Tula sector, the battle for Moscow had concluded, and the Russian Winter campaign initiated.

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MIGRATION TO ENGLAND BY CONSTELLATION CLIPPER

“EXPERENTIA DOCET”

WHEN, in March 1948, it became clear that sea passages were not to be available (except after considerable delay) for British officers of the Indian and Pakistan establishments being released on March 31 of that year, I decided to accept the alternative of going by air. My wife accompanied me and it was her first experience of air travel. It was also my first experience of a trip in a plane with a “pressurised” cabin which enables flight at far greater altitudes than those at which aircraft ordinarily fly.

I was leaving India finally after a lifetime of service in the Indian Army, and this meant a final and exhaustive packing and disposal of personal effects practically all of which had to travel to England by sea unaccompanied. The question of baggage is of course the greatest obstacle to air travel, and it greatly complicates the problem when every personal possession has to be arranged for in advance. For this reason anyone who contemplates air travel for a journey of migration from India, would do well to adopt three precautions :—

- (i) Send ahead by at least two months, an advance instalment of baggage containing a mixed assortment of everything ordinarily required at the destination.
- (ii) Take to Bombay or Karachi in person the balance of heavy kit and attend to its departure from India. There are many formalities.
- (iii) Weed out ruthlessly the non-essentials from the small amount of baggage to accompany you by air, and allow a few lbs. spare margin of weight. If you are packing in a dry climate, the same kit will weigh several lbs. more in the damp of Bombay or Karachi, and excess baggage for the flight to England costs about Rs. 10 per lb. weight.

The journey began in Simla and as we had friends to visit in Karachi we decided to start the main flight by Clipper from there. My wife flew there direct from Delhi; I travelled via Bombay to see to the transit of the baggage (see ii above).

In Karachi our experience was somewhat varied. The hotel charge was the exorbitant figure of Rs. 60 per day for a married couple, and travel agents were not kept fully up-to-date with information about plane timings and any variations from the advertised schedule. At the same time the local shops were very well stocked and any last minute deficiencies in kit were easily made up.

Our ‘Clipper’ was due in Karachi at 6-30 p.m. on Thursday, April 23, and was to leave at 7-30 p.m. We were warned to be ready for the bus to the airport at 5 p.m. No bus having arrived by 5-30, a phone call elicited the reply that there would be at least an hour’s delay and we should ring up again at 6-30 p.m. After a hot and boring wait of an hour we did this, only to be told that the plane had in fact experienced engine trouble and was not expected from Delhi till next morning. We were asked to ring up again at 9-30 a.m. next day for instructions. There was nothing for it but to return to our rooms and unpack for another night. On ringing up next morning we were told by

an agitated agent that the plane was arriving very shortly, and could we be at the bus rendezvous in half an hour! The heat of the day and the agitation of the babu were not cooled by our replies. However, the bus waited for us, and we finally arrived at the airport about 11-30 a.m. to complete the formalities inseparable from modern international air travel.

The clipper proved to be a huge 4-engined plane carrying a crew of 8 and 41 passengers. We travelled with 40—one seat only being empty. All passengers have to de-plane when stops are made at airports, and we found our travelling companions waiting in a hot fanless room. They were given lunch at Karachi airport—an amenity we had no time for, and we rather surprised the purser on the plane later by asking when we might expect something to eat. His reply was “at Damascus at 6-30, but we shall serve some tea or coffee about 4 o’clock”. However, on explaining our hungry state he remarked, “Guess I’ll try and make up some sandwiches for you”—which he did. Further conversation with this engaging official elicited the information that the engine trouble that had delayed the plane had occurred on the outward (eastbound) journey at Delhi, that it had prevented the plane from reaching Calcutta—its original destination—and that the plane had in fact been worked on for three days by mechanics and engineers in New Delhi to get a defective cylinder changed. Incidentally, it had prevented the replenishment of cold storage supplies from the American plant in Calcutta (there being none in Delhi) and as a result we were somewhat restricted in the matter of American delicacies that were fulsomely advertised as an attraction to travel by the Company concerned.

Although the breakdown of the engine had occurred on the outward journey and had upset the plane’s itinerary several days earlier, the Karachi agents appeared to know nothing of the matter and warned everyone joining the plane, to be ready at the normal time—thereby causing a good deal of unnecessary inconvenience.

The flight up the Persian Gulf was uneventful, but on approaching Iraq the weather deteriorated and we ran into heavy cumulus clouds extending to a great height. It was obviously impossible to go above or round the weather disturbance, and the plane plunged into darkness with thunder and lightning. We also began to be thrown about a good deal and some of the passengers were very air sick. The hostess, however, was untiring in her attentions giving all the relief she could and manipulating a very welcome eau de cologne spray. Tea was due about this time but could not be served. The plane, however, cleared the worst of the bad weather by 5 p.m. and we were given a very welcome cup of tea.

The approach to Damascus was impressive. Descending to a low altitude while still over the desert the sudden change of landscape to a bright green was quite startling. After the dust-covered vegetation of the Indian plains in late April, followed by the arid wastes of the Persian Gulf and Mesopotamian deserts, the eye found relief in the rich colours of the Syrian fields and orange groves. Almost immediately Damascus itself was below us like a tea cloth embroidered with pearls on a carpet of peacock blue and green.

On landing, the change in climate was as great as the change in landscape and atmosphere. A cold wind was blowing with intermittent clouds and showers of rain. The mountains to the west were veiled in cloud and their lower slopes covered with snow.

Refuelling completed, the plane left Damascus as the sun was setting under the clouds, and the next lap of the flight was mostly in darkness. A full moon, however, had risen by the time we neared Istanbul and lit up our approach to the Bosphorus and the Turkish airport that adjoins it on the west of the Golden Horn. The time was after 10 p.m. and on landing we were given an excellent dinner which included our (presumably) last dish of rice and some wonderful oranges. Sitting with the skipper of the aircraft he told us we would be flying over the Alps at 18000 ft. that night, but one felt that even if awake we should find cloud enveloping the plane and nothing would be visible.

Our departure from Istanbul was marked by a false start. Taxiing to the end of the runway the usual "reviving" of the engines was somewhat prolonged and was followed by a return to the airport. Our concern was relieved by the information that the trouble was no more than a defective plug, and the necessary change being completed we took off shortly before 1 a.m.

The full moon continued to light our way, and a cup of very black Turkish coffee at Istanbul having induced wakefulness, I wondered idly whether indeed the flight over the Alps would give us a glimpse of the landscape below. Cloud strata veiled everything except occasional glimpses of the Adriatic for several hours. Clearer weather, however, came as we passed over the coast of the Gulf of Venice and the towns could be discerned as tiny clusters of red lights mostly on the fringe of the dark mass of land. We were now at a great height, and the head of the Adriatic with the plains of Lombardy lit up to the west by the golden light of the moon. Soon we were over the Alps, and the snow fields lay below in varying shades of ice blue broken by masses of rock and with black rifts showing where the valleys ran up into the regions of snow. Beyond the mountains, the Italian lakes gleamed in the moonlight. The picture was unforgettable in its beauty but did not last long. Cloud enveloped us on the north side of the Alps and did not clear till the plane was over Paris at a low altitude.

We landed at London airport at 7 a.m. in perfect weather. My daughter had come to meet the plane, but was hastily shepherded away by zealous officials, until we had cleared the customs barrier. Such restrictions are irksome, but doubtless necessary to prevent smuggling of small articles or drugs.

The whole journey from Karachi had occupied by clock time from lunch time one day till "chota hazri" the next, but we had in fact been chasing the clock and the actual time taken was $1\frac{1}{2}$ hours longer. Even so the journey had lasted less than 24 hours and the rapidity of change of surroundings was bewildering. The accommodation on the plane did not provide sleeping berths as in some continuous day and night air journeys, but the very comfortable arm chairs were made to tip back to a recumbent position that made sleep not very difficult. As passengers have always to leave the plane at refuelling stops, it is a question whether this form of adjustable arm chair is not preferable, for a single night's travel, to a sleeping berth.

Mention has been made of the problem of what kit to take in the restricted allowance. Another problem on this particular journey is that of what clothing to wear. Karachi like everywhere else in India in April was swelteringly hot. Its cool sea breezes have little effect at the airport some 15 miles inland. Damascus, Istanbul and London were all cold and the first named windy and wet as well. The writer wore serge for emplaning at Karachi and by the time the plane left he had soaked his vest and shirt with perspiration. Six hours later at Damascus he was glad, not only of the serge but of a warm pullover and overcoat; and these conditions obtained for the rest of the journey.

The interior of the plane was of course artificially warmed, but this failed to compete with conditions at 18000 ft. over the Alps during the night, and the offer of several blankets from the hostess was gratefully accepted. She remarked cheerfully, "Well, I'll say it is cold! I guess it's 20 degrees below zero outside". It was certainly a rapid and decisive change from 100° with 80° of humidity in Karachi airport!

There is no more to tell of this journey by air except perhaps to record that the heavy baggage duly arrived in instalments spread over a period of two to five months. It suffered a certain amount of damage and pilfering, and was opened by Customs officials both when leaving India and entering England. The customs charges were levied and losses due to pilferage were mainly covered by insurance.

Air travel for those who have to pay short visits or make extended tours is nowadays a routine matter, but for anyone migrating, particularly with a family and heavy baggage, it still presents many problems. Perhaps the above notes may be of interest if not of assistance to those with kindred journeys to make in the future.

Library of World's Newspapers

The only library in the world of its kind, the British Museum Newspaper Library has 380,000 volumes of 25,000 different newspapers and periodicals of the world. Saturation point has now almost been reached, and new buildings are being erected to receive current and future publications. In 1941, the original depository was hit by a German bomb and about 30,000 bound volumes were destroyed.

BRITISH COMMONWEALTH OCCUPATION FORCE IN JAPAN

LIEUT.-COLONEL RAJENDRA SINGH *

AFTER the surrender of Japan, the Australian Prime Minister, Mr. Chifley, informed the United Kingdom Government on August 17, 1945, that "Australia wished to furnish a composite force to participate in the occupation of Japan under an Australian Commander subject only to General MacArthur's command." The Australian War Cabinet also asked that Australia should be regarded as a principal Pacific Power, which had borne a major share of the struggle against Japan. The British Cabinet was fully aware of Australian susceptibilities, in matters of Pacific defence, and agreed to Australian consultations with the USA Department of State, on behalf of the Commonwealth, for the despatch of a Commonwealth Force consisting of British, Australian, New Zealand and Indian troops.

After six months' protracted discussions in Washington and Tokio an agreement was reached known as "MacArthur-Northcott Agreement", the main provisions of which were, that :

- (a) The BCOF will constitute a component of occupation in Japan under the supreme command of the Supreme Commander for the Allied Powers (SCAP).
- (b) SCAP will assign ground forces of BCOF to operational command of the Commanding General, US 8th Army and air component of BCOF to US 5th Air Force.
- (c) GOC, BCOF, will be responsible for the maintenance and administration of BCOF as a whole.
- (d) The military Government, as distinct from military occupation, will remain the sole responsibility of SCAP.

BCOF was allotted the prefecture of Hiroshima and it was made clear that this would not constitute a national zone. America was dead set against the allocation of national zones in Japan like those in Germany. It is not necessary to give in detail the reasons which prompted General Northcott, Head of the Australian Liaison Mission in Tokio and later C-in-C, BCOF, to select out of the four important areas of Tokio, Nagoya, Kobe and Hiroshima, important from the point of view of social, industrial and political development, the prefecture of Hiroshima which was the least important.

The United Kingdom Government was not very appreciative of this selection and was keen to occupy the Kobe-Osaka area as it had great prestige value in the eyes of the Japanese; the old capital of Kyoto and the sacred city of Nara were located there and before the war more than 80 per cent of the British trade was through the harbour of Kobe. But the die had been cast and the BCOF troops began to arrive in Japan, beginning from March 1946, to take up their assignments in the prefecture of Hiroshima. It soon became obvious that more space would be necessary to take in

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37,000 troops, and the prefectures of Yamaguchi, Shimane, Tottori and Okayama in Honshu Island and the whole of Shikoku Island, were taken over.

The initiative and decision to send a British Commonwealth Force to Japan was made by Australia on behalf of the governments concerned and not at the request of the United States Government but, of course, with its concurrence. Australia was keen to become the principal for the British Commonwealth of Nations in the Pacific. An Australian was selected as the Commander-in-Chief of BCOF, an Australian was selected as the British Commonwealth representative on the Allied Control Commission for Japan in Tokio and the Australian Government machinery was made the channel through which all policy regarding occupation of Japan had to be conducted. Again, an Australian was appointed the President of the War Crimes Tribunal in Tokio. Therefore, the British Commonwealth policy for the occupation of Japan came to be largely influenced by Australian policy. To appreciate this it is necessary to examine the political, economic and military advantages which Australia thought might accrue to her by despatching BCOF to Japan.

STRATEGIC CONSIDERATIONS

In the Pacific Zone Japan occupies the same position in relation to the Asiatic mainland as Britain to Europe. With Britain in the west and Japan in the east, forming allied strongholds, the land mass of Eurasia was bottled. In any conflict between the Soviet bloc and the Western bloc, Japan's strategic situation in the Pacific was of prime importance. Australia as a component unit of the Western bloc desired to maintain its military superiority by contributing her own forces, who incidentally would act as advance guard of her defence in the South West Pacific.

With the defeat of Japan the "yellow menace" had disappeared, but in its place a "red bogey" had attained more serious proportions, particularly with the spread of Communism in China and South East Asia. To guard against this potential danger Australia was keen to exploit this opportunity of influencing strategic developments in that part of the world by sending her forces to Japan.

If Australia desired to become a world power, specially to be reckoned with in the affairs of the Pacific, it was essential for her to be an active participant in any organisation planned for the security of that area. Australia wanted to communicate her willingness to share in these obligations and responsibilities by sending her forces to Japan.

Australia perhaps was also conscious of the fact that if she desired USA's help to augment her defences in any future war, as she did in World War II, she must support her in the occupation of Japan to maintain the unity of purpose and the community of interests which had arisen between the two nations during the last war. It incidentally would also show to Russia the great unity of the Western bloc.

By being in Japan, Australia could be "on the spot" to influence the future course of history in her favour. The occupation and control of Japan and the consequential control of her resources, economic development and war potential would ensure a favourable position for her in the Pacific Ocean.

POLITICAL CONSIDERATIONS

As strategical considerations depend on the geographical locations of countries and their relationship in terms of time and space, so political considerations must take into account the internal developments within the states and their relationship

in respect of human factors. These must keep on fluctuating, depending on the day to day activities taking place within the vast organism of the State. It was to influence this chrysalis state in Japan that Australia was keen to be there.

The main political objective was to raise the prestige of the British Commonwealth of Nations. Due to intensive propaganda in and out of Japan, the Japanese public had begun to believe that Japan was defeated by the USA alone. In order to impress on the Japanese people the contributions of the British Commonwealth of Nations, towards Japan's defeat and the potentialities of the Commonwealth as a world power, it was essential to station BCOF troops in Japan because the Japanese were accustomed to render respect to a foreign country according to its military power. It would also bring to the notice of the Allies and other countries, especially those interested in the Pacific, the importance of the British Commonwealth of Nations in world politics.

Australia wanted to demonstrate to the world that she had attained political maturity, had a bone to pick in the Pacific political pot and wanted to ensure her position as a principal in the Japanese peace settlement by her active participation in the occupation.

ECONOMIC CONSIDERATIONS

The economic exploitation of Japan was one of the main factors which induced the British Commonwealth of Nations to send their forces there, yet these objectives were not clearly laid down and were completely lost sight of during the stages of negotiation and early period of occupation.

Before the war Japan was a great industrial country and her cheap goods used to flood the markets of the world. It was necessary to control her exports so that the industries of the west, which had suffered badly during the war, could get back on their feet. Japan was to be checked from becoming an industrial rival.

Factories which were considered surplus to Japan's requirements were to be dismantled and shipped to participating countries as reparations. BCOF agencies and troops in Japan were to ensure that the Commonwealth received its due share.

The United Kingdom had economic interests in Japan before the war and it was hoped that the presence of BCOF will help in safeguarding them and their further development by direct contact with influential sections of the Japanese public and institutions.

As Japanese trade was to be conducted through occupation authorities and carried in Allied shipping, Japan being debarred from possessing a mercantile marine, it was considered, that the occupation of an important area with a suitable port of entry would ensure for the British Commonwealth a fair share of the trade and the shipping tonnage required to export it.

MILITARY CONSIDERATIONS

The military objectives of the occupation for BCOF were the same as outlined by the President of the United States for SCAP, because BCOF was not a policy-making body, but merely an instrument for the conduct of SCAP policy. These were :

- a. to assist in the demilitarisation and disposal of Japanese war installations and armaments ;
- b. to safeguard the Allied installations and equipment ;

- c. to give military protection to British civil missions engaged in selecting goods and equipment for repatriation;
- d. to maintain internal security in Japan; and
- e. to provide military backing to the United States military government in BCOF area.

COMMONWEALTH CO-OPERATION CONSIDERATIONS

During World War II, it became obvious that the Imperial defence machinery required overhauling. BCOF was to be the testing ground and an experiment to evolve a machinery for a Combined system of defence in which many independent countries may participate on a regional basis.

The policy and organisation of BCOF and its controlling agency, Joint Chiefs of Staff in Australia (JCOSA) was to be a further development in the closer integration of British Commonwealth co-operation.

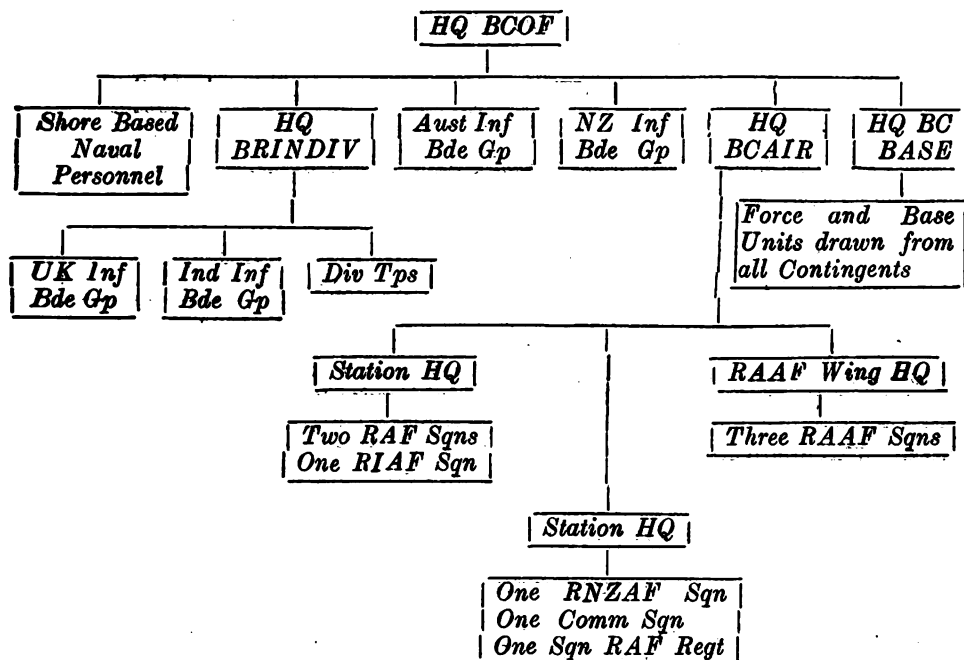
The various Services and their personnel had to be integrated into a combined show and the national contingents of four states, themselves containing elements of different services were to be combined into one Force, to be controlled and commanded by an integrated headquarters staffed by officers from all the three Services and commanded by one Commander-in-Chief.

BCOF was to provide the data for the administration of a similar force overseas in war and the details of the machinery considered suitable to undertake such an adventure in the future and to provide the information regarding the national and international arrangements to be made by and with the states taking part in the Regional defence.

ORGANISATION OF BCOF

The communique of February 2, 1946, issued simultaneously from London, Canberra, Wellington and Delhi stated that the Force would comprise :

- a. Force and Base troops drawn from each of the contributing countries.
- b. a land component organised as a corps of one British-Indian division (BRINDIV) and two Independent Brigade Groups, one each from Australia and New Zealand.
- c. an air component comprising squadrons drawn from the Royal Air Force, the Royal Australian Air Force, the Royal New Zealand Air Force and the Royal Indian Air Force.
- d. H.Q., BCOF would be fully integrated with representatives drawn from each service and from Commonwealth countries contributing to the force. It would be commanded by Lt. Gen. J. Northcott, CB, MVO, of the Australian Military Forces and Air Commodore F.M. Bladen, CBE, of the Royal Australian Air Force would be his Chief of Staff.



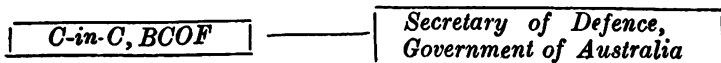
HQ BCOF, HQ BCAIR and HQ BC Base were to be formed by integrating units from various contingents. Due to lack of pre-planning the details were not worked out and left to resolve themselves on arrival of the Contingents in Japan. This created a great deal of misunderstanding as units on the Order of Battle (O.O.B.) of National Contingents were taken away from them for integrated HQs and formations. The comparative strength of the various national contingents was approximately, as follows:

COUNTRY	TOTAL PERSONNEL	PERCENTAGE
AUSTRALIA	11,446	32.3
GREAT BRITAIN	9,954	28.1
INDIA	9,611	27.1
NEW ZEALAND	4,425	12.5
TOTAL BCOF	35,436	100.

CHANNELS OF COMMUNICATIONS

In order to carry out his diverse responsibilities the C-in-C, BCOF, was authorised to deal with different authorities on the following levels:—

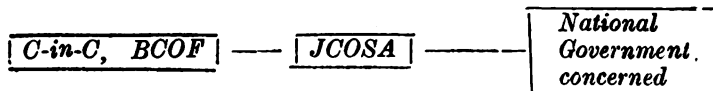
- (a) On matters requiring ministerial or governmental advice, but not of command or administration.



- (b) On matters of joint policy.



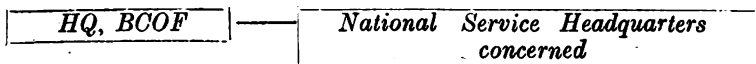
- (c) On command and administrative responsibility



- (d) *All executive action by Australian Service Machinery.*



- (e) *On all matters of domestic administration, regarding personnel of any particular national contingent.*



The command and orders from BCOF to various components were according to established rules of procedure, but the nominated national representative had the right of direct access to his National Service Headquarters on any matter of national importance, but had to submit two copies of his communication to HQ, BCOF. This prerogative was rarely used by any national representative and once again proved that people of different nationalities can work together if motivated by a common cause. It also illustrated that the responsibilities and the channels of communication must be clearly laid down from the very beginning. *

ACHIEVEMENTS OF BCOF

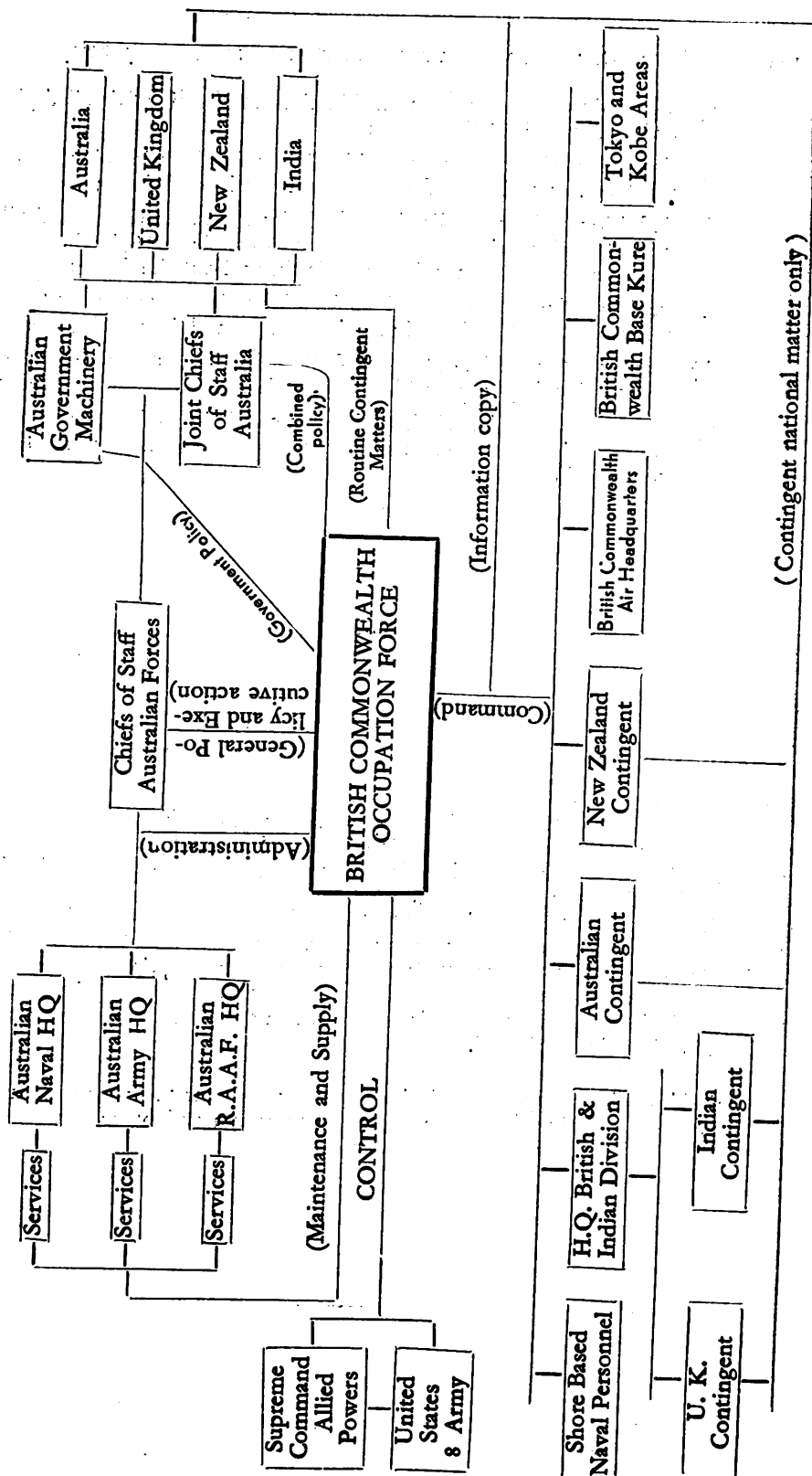
The achievements of BCOF must be examined after fully understanding the two main handicaps under which it had to work. Firstly, it was not the master of its own policy, which was laid down by SCAP. It could not therefore raise British Commonwealth prestige and enhance its political and economic interests which it could have done if it was allotted a national zone with full jurisdiction over it. This may have changed the whole shape of occupation of Japan as Russia and China may have demanded a zone for themselves, thus defeating the whole SCAP policy. The presence of BCOF did help in a limited way to increase British prestige in the eyes of the Japanese people. When 5 (British) Brigade left Shikoku island and later when the Indian Contingent was withdrawn thousands of Japanese literally cried. The Commonwealth troops by their decorous behaviour had impressed on the Japanese the value of the democratic way of life.

Secondly, BCOF was not given long enough life to test various theories of integration, on service and international basis. The national differences of thought, culture and religion between the various contingents could not be removed by the touch of the magic wand and could only be smoothed by experience and time. 5 (British) Brigade was suddenly withdrawn in February 1947 and the whole of the Indian Contingent was withdrawn by September of that year. Even this short experience of combined control, maintenance and administration brought out many lessons which will be useful for any future planning for a Force of such a nature. These were :

- early appreciation of the responsibilities, functions and tasks of the Force ;
- early receipt by C-in-C of an outline plan of the Force covering broad principles of organisation and administration including degree of inter-service and inter-national integration, financial arrangements and control ;
- early receipt of directives by Commander-in-Chief and component commanders defining their responsibilities, relationships and channels of communication ;

* Cross-relationships of HQ, BCOF, are shown on page 161.

CROSS-RELATIONSHIPS OF HEADQUARTERS BCOF



- (d) assembly of headquarters staff in time to permit of detailed planning before despatch of the Force ;
 - (e) decentralisation of powers to C-in-C to make alterations in the establishment etc. within the force to meet local conditions ;
 - (f) definition and standardisation of relations between C-in-C and all components and contingent commanders to enable the C-in-C to exercise effective control on a uniform basis throughout the force ;
 - (g) revision of nomenclature of staffs and appointments to meet the case of a force integrated from both the service and international aspects ;
 - (h) to prevent from the outset any feeling that one component predominates or is solely responsible for supplies, ordnance and canteen units ;
 - (i) Headquarters to have balanced teams consisting of officers and personnel of contingents and components corresponding to their contribution.
-

Safety Jacket for Non-Swimmers

A yachting jacket which will keep the wearer afloat for a number of hours is being made by a London firm. The lining is of "Tropal", a blanket-like material which is used in aircraft and refrigerators as insulating material and in clothing because of its lightness and warmth.

Tests made on "Tropal" show that it will support over 30 times its own weight in water. To allow a margin for safety, however, the manufacturers have incorporated three times as much "Tropal" as would be required to keep a man afloat under the most favourable conditions. Moreover, by welding the fibres into a cohesive blanket, the chance of their being washed away should the outer covering be torn is virtually eliminated.

Besides being buoyant, the jacket is highly resistant to water and damp. It is therefore an effective protection against rheumatism and other ailments arising from damp and exposure to bad weather.

THE BATTLE OF BERLIN

BRIGADIER THAKUR SHEODATT SINGH*

PROLOGUE

THE Crimean Conference between the Allied Powers agreed, amongst other things, that the city of Berlin would be taken by the armies of the Soviet Union. It is understood that Marshal Stalin proposed this action, which was readily agreed to in view of the fact that the Red Army was only 130 miles east of the city, while the American, British and French armies were more than 350 miles to the west. As part of the agreement the British and the American armies were to halt on the Elbe River while the main effort swung to the south to penetrate the Czechoslovakian border, overrun Bavaria and link up with the Red Armies in Austria.

This plan was followed, except that in the chaotic disintegration of the German armies, United States Forces crossed the Elbe, capturing thousands of prisoners and succeeded in pushing reconnaissance units to the vicinity of Potsdam, from where they were withdrawn upon the orders of Supreme Headquarters to the Elbe River. This withdrawal was accomplished on 19th April, 1945.

Berlin was completely surrounded by the Russian army and as the German field armies were then engaged in fighting the British, American and Russian forces, they could not come to help in the defence of Berlin. It must be realised that the Battle of Berlin cannot be compared to the battle of Stalingrad, which city was never properly surrounded by the German army.

NARRATIVE I

The Russian Side

On or about 21st April, 1945, the Russian Forces in the east broke through the German defences on the Neisse River (150 km. south of Berlin) and started to advance towards Berlin.

The Russian Forces advancing on Berlin consisted of four infantry divisions, three heavy armoured divisions, one horsed division and one composite division consisting for the most part of artillery and supporting weapons. The Russian Commanders included Generals Balerine and Constantine.

The German Side

On or about 21st April, 1945, the situation was as follows:—

(a) The main German dispositions outside Berlin were:—

(i) On the west of Berlin on the Elbe River, opposing the British and American forces was the 12th Army under General Wenck.

(ii) On the north was Army Group Holstein.

*The author served with the Indian Military Mission in Germany after the war. This brief account compiled from various sources claims to be only partially accurate.

- (iii) In the east was Army Group Weichsel (at one time under the command of Himmler).
- (iv) Facing south against the Russians was Army Group Centre under Marshal Schroeder.
- (v) None of these armies was nearer than 100 miles to Berlin.
- (vi) The German 9th Army under the command of Col. Gen. Heinrich was supposed to defend the outer area outside Berlin. This order was not carried out as the Army became very disorganised, due to the rapid advance of Russia. The German rank and file started to desert when they reached Berlin; they put on civilian clothes and hid in Berlin. The S. S. discovered some of these soldiers and the usual punishment was to shoot them and sometimes burn the houses where they had taken shelter.

The remains of the 9th Army passed through Gatow and Spandau and finally reached Nauen, where they surrendered.

- (vii) General Keitel and the main Army H.Q. now started to disintegrate. Keitel went south and the Army H. Q. to Rheinsberg. The organised defence of the German Armies was now coming to an end.

(b) The following at this time, were known to be in the Chancellery:—

Hitler
 Bormann
 Goebbels
 Kreis (Chief of Staff)
 General Burgdorf (Hitler's Adj. for all Services)
 Bauer (Hitler's chief pilot)

- (c) 56 Panzer Corps, under General Weidling, was being pushed back into Berlin City. General Weidling was told to take over the defence of the city.

In addition there were present in Berlin :—

S.S. Troops
 Volksturm (Home Guard who were badly armed and organised)
 Hitler Youth Units.

The total forces available for the defence of Berlin were wholly inadequate and hence the Berlin defences did not succeed in holding the Russians for longer than twelve days.

NARRATIVE 1

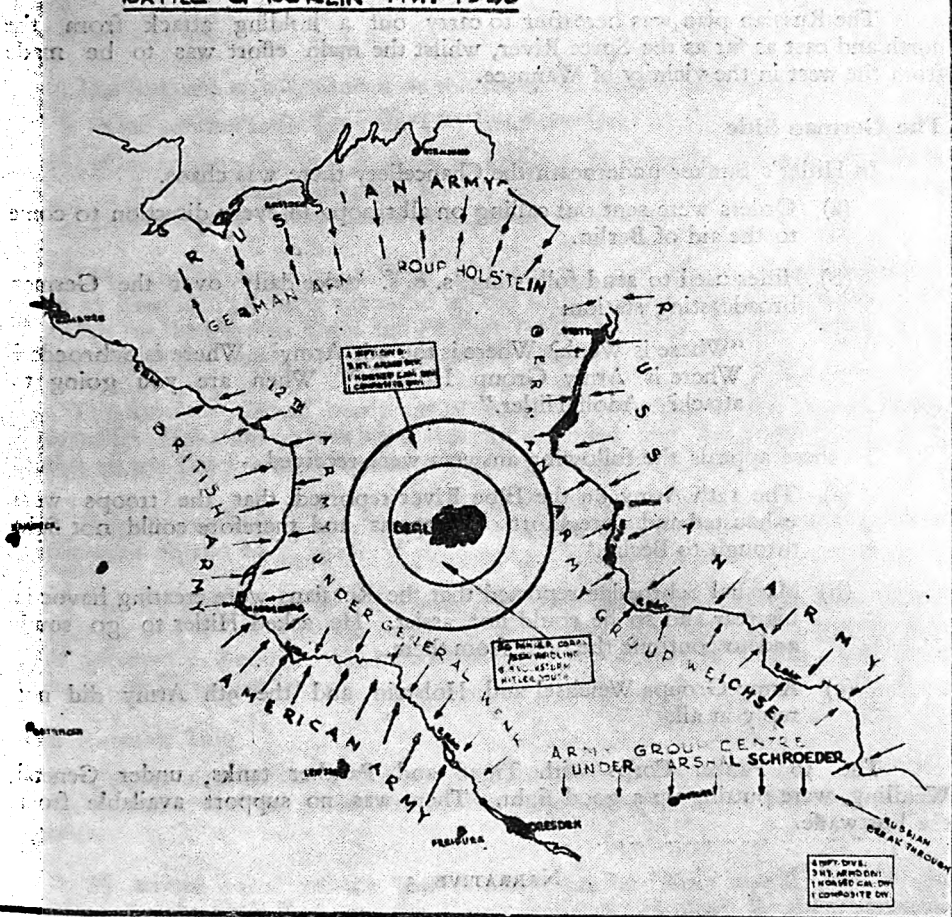
The Russian Side

22nd April—28 April, 1945.

The Russian Forces (Tanks) reached the outer ring of defences at :

Birkenwerder	—	40 km. north of Berlin
Spreewald	—	100 km. south of Berlin
Wuensdorf	—	50 km. south of Berlin

BATTLE OF BERLIN MAY 1945



Teltow	—	}	Suburbs of Berlin
Lichterfilde	—		
Steglitz	—		
Tempelhof	—		

The Red Army broke through the outer ring of defences on the north and on the east of Berlin.

Penetration was effected up to the line of the Spree River. This line was held but there was very vicious fighting here.

Berlin was now completely encircled.

The Russian plan was hereafter to carry out a holding attack from the north and east as far as the Spree River, whilst the main effort was to be made from the west in the vicinity of Wannsee.

The German Side

In Hitler's bunker underneath the Chancellery there was chaos.

- (a) Orders were sent out calling on all troops in every direction to come to the aid of Berlin.
- (b) Hitler used to send following s. o. s. twice daily over the German broadcasting station:

"Where is Wenk? Where is the 9th Army? Where is Schroeder? Where is Army Group Holstein? When are you going to attack? Adolf Hitler."

To these appeals the following answers were received..-

- (a) The 12th Army on the Elbe River reported that the troops were exhausted and were short of weapons and therefore could not fight through to Berlin.
- (b) Marshal Schroeder reported that the Russians were creating havoc in his rear and so he could not assist. He asked Hitler to go south and to continue the fight from there.
- (c) Army Groups Weichsel and Holstein and the 9th Army did not reply at all.

The 56 Panzer Corps with Tiger and Panther tanks, under General Weidling, were putting up a good fight. There was no support available from the Luftwaffe.

NARRATIVE 3

The Russian Side

29th April, 1945.

The Russians attacked with infantry and tanks at the junction of the Grosser and Kleiner Wannsee on Koenigstrasse. There was bitter fighting in this area and they suffered 3,000 casualties. The German defences in this area were not good and the Russians were able to wade across the shallow water of the Kleiner Wannsee and to get into the woods of Grunewald, which afforded them excellent cover.

The German Side

General Weidling, who had his H. Q. 56 Panzer Corps in the Zoo shelter, moved them to the Bendler Block.

SS troops were sending out false reports to bolster up morale. They even stated that naval troops under Admiral Doenitz, were already in Berlin.

NARRATIVE 4

April 30, 1945.

The Russian Side

The Russians now advanced on the centre of the city as follows :-

One column from Tempelhof to Reichskanzlei.

One column through Schiendorf, Dahlem, Grunewald, Wilmersdorf, where street fighting took place for the following three days on the line of the Landwehr-Teltow Canal near Budapesterstrasse.

When the Russian advance had reached the line Kaiser Allee/Tiergarten about 35 Russian T34 tanks advanced up the Kaiser Allee but these tanks were no match for the German Tiger and Panther tanks and many Russian tanks were burned out in this area.

The Russians suffered heavy casualties when they attacked the bunker in the Tiergarten. This bunker was very heavily defended and was bomb-proof, even against 10 ton block-buster bombs.

There were about 2,000 SS troops in this bunker when the Germans finally surrendered on 2nd May, 1945.

The Russian troops in the Kaiser Allee area comprised Tartars, Mongolians, Armenians and White Russians. But on or about 10th May, these troops who were apparently Russian shock troops, were taken out of Berlin and were replaced by Ukrainian troops.

The German Side

The German Luftwaffe did not function over Berlin after 20th April, but Wilhelmstrasse and the Unter den Linden were being used as airfields for small aircraft.

SS troops based on the flak towers near the Zoo fought hard in the neighbourhood of the Zoo and the Tiergarten; this resulted in the destruction of one square mile of buildings etc. in this area.

NARRATIVE 5

1st May, 1945

The Russian Side.

- (a) The German defence ring had slowly shrunk and was, by now, roughly the Spree River from Paulstrasse to Osthafen, then the Canal line to the south, where it joins the Teltow Canal and then eastwards to the Hafenbassin. This line held except for the western extremity

which was crossed on 1st May. The Chancellery was captured on the same date, Hitler having married Eva Braun and both then are believed to have committed suicide.

(b) On 2nd May, 1945, Berlin capitulated.

On 1st May General Weidling was ordered to try to fight his way through to Wenk, but this order was subsequently cancelled as an impossibility. On returning from the Chancellery he stated that Hitler had committed "hari kari" after marrying Eva Braun and that his (Hitler's) wish was that Doenitz should become President of the new Government, Goebbels Chancellor, Bormann chancellor of the Nazi Party and Seyss Inquart Foreign Minister. Weidling considered Hitler's action to be treachery and therefore released all German soldiers from their oaths of allegiance and let them go to their homes.

During the fighting, lamp-post hangings and summary executions by the Nazis of individuals who refused to continue active resistance were common sights. In the last four days all communications, power and water and other utilities were out of action, yet German sound trucks continued to move through the streets exhorting the people to further resistance and promising "rescue" by the western forces.

NARRATIVE 6

Shortly after the Red Army had fully occupied Berlin they distributed leaflets instructing the inhabitants to maintain order, discard all firearms and to turn in their radios without delay.

During the fighting and the weeks immediately following, there is considerable evidence that widespread looting, pillage, murder and rape took place.

The Red Army, under Marshal Zhukov, brought certain German officials, some of whom were from the Free German Committee, to govern the city. However, in the interim period, between the fall of the city and the arrival of the British and the United States Forces at the beginning of July, the main accomplishment was the reinstatement of about one-third of the city's power resources, transportation and the burial of the dead. Sanitary conditions were extremely bad and the water supply was so impure that the dysentery rate soared. Food was distributed but only the barest supplies were available.

Upon the arrival of the British and American Forces most streets, except main arteries, were still clogged by battered war material, including tanks, trucks, cannon, burnt-out street cars and defensive installations. Small arms, including rocket launchers, machine guns, rifles and ammunition were in evidence and it was not until the late autumn of 1945 that this condition was corrected.

ANTI-SUBMARINE

The Development of Ship-borne Weapons

CAPTAIN J.S. COWIE, C.B.E., R.N. (RETD.)*

THE submarine, in the sense of an operationally practicable craft, did not become a menace until World War I, and the depth-charge as we know it today did not come into service until 1916.

Before that, the only methods of destruction available to surface ships were the gun and the ram. The hydrophone, as an instrument of detection, was tried in the last two years of the war, but was a "passive" device which could only hear a noise emanating from some outside source. It was not only difficult to calibrate, but lacked discrimination and was extremely susceptible to the noise made by the ship in which it was fitted.

In short, the principal detecting device remained to all intents and purposes the "trained judgment of the seaman's eye." Although described at the time to an appreciative House of Commons as one of the finest optical instruments ever devised, it seems remarkable that of the 200 odd U-boats sunk in World War I some 70 were destroyed by the gun, the ram, and the depth-charge. These figures do not include 11 sunk by the guns of "Q" ships, which must be regarded as being in a different category.

It must, however, be remembered that the U-boat of those days was slow and rather unhandy, and that she had to surface to recharge her batteries at fairly frequent intervals. Furthermore, her torpedoes were short-range weapons whose track, and sometimes the actual discharge from the submarine, could be seen by eye. She was, in fact, more often *caught* than detected, and alertness combined with experience and training made up for some of the deficiencies in detecting apparatus and weapons.

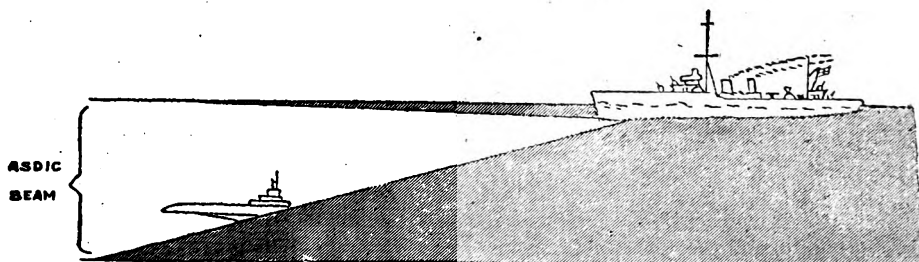
Between the wars, anti-submarine operations were revolutionised by the development of the "Asdic". Like all great inventions this device is simple in principle. If a lump of quartz is squeezed hard enough, a difference of electrical potential is set up between the two opposing faces of the lump. Conversely, if a high enough difference of potential is applied to the quartz, it will alter in shape. If this is done intermittently and with sufficient rapidity, the quartz will "oscillate," and if it is under water a narrow beam of supersonic sound is shot out into the sea. Should this beam strike an acoustically opaque object such as a submarine it will be reflected back along the same path and strike the oscillator, so producing a difference of potential which can be detected.

The direction in which the face of the oscillator is pointing when these return "pings" are received gives the *bearing* of the submarine, while by measuring the time which elapses between corresponding outgoing and incoming pings, the *range* of the submarine can be calculated from the known speed of sound under water. The Asdic, in fact, is what is called an "active" device, because it produces its own sound and then listens for and records the echo.

* Reproduced from *The Navy* by courtesy of the Navy League, London.

Mortars were also further developed between the wars and fitted to A/S vessels to enable depth-charges to be thrown out on either beam, which in conjunction with those dropped from the stern in the orthodox way produced a "pattern" of 300-pound explosions and so increased the probabilities of success. Thus we entered World War II with an excellent piece of equipment for the accurate detection and location of a submerged U-boat, and with a depth-charge armament capable of dealing her a pretty severe blow when attacked.

There remained, however, one snag. A depth-charge sinks at the rate of about 10 feet per second, and a ship which is holding a U-boat in her Asdic beam requires to manoeuvre so that her stern passes over the estimated position of the target. For a variety of technical reasons the angle of depression of the Asdic beam is fairly small, and it will be seen, from the typical state of affairs shown in the diagram, that a considerable period may elapse between the moment when contact is finally lost and the moment at which the depth-charges explode. This "blind time" might, even under the best conditions, be as much as 50 seconds in the case of a U-boat at a depth of 150 to 200 feet. But this was not a really serious matter against craft incapable of diving any deeper and with a maximum submerged speed of about 6 knots. In World War II, however, the progressively improved capabilities of U-boats, both as regards diving depth and submerged speed, coupled with their greater powers of manoeuvre and increased structural strength, made it imperative to reduce the "blind time" to an absolute minimum.



ATTACKING SHIP ABOUT TO LOSE ASDIC CONTACT WITH U-BOAT

One obvious method of doing this was to increase the sinking rate of the depth-charges, but there were limits to the extent to which this could be done because of the necessity for ensuring that the attacking ship had time to forge ahead of the explosions in order to avoid damage to herself.

Attention was therefore directed to the possibility of throwing the charges *ahead* of the attacking vessel, so as to reduce the blind time simply to that of the time of flight of the charges through the air, *plus* the time taken for them to sink to the required depth. Under these conditions, a high sinking rate would be essential, in any case, in order to ensure that the attacking ship did not advance into the danger zone. Thus the scheme represented one of those rare situations in which the tactical requirements are not in direct conflict with the safety limitations.

As a result of these considerations there emerged in 1941 the "Hedgehog." This was an ahead-firing weapon designed to throw a salvo of twenty charges to a mean range of 200 yards. The pattern produced was a circle of about 130 feet in diameter, and each projectile carried a charge of 34 pounds of explosive with an impact fuze. That is to say, the general idea was to fire a large number of small contact charges with a view to achieving a direct hit. In theory, the probable chance of success with "Hedgehog" was about three times greater than that of the orthodox depth-charge attack. In practice, the balance in favour of "Hedgehog" was slightly

higher, because of the greater ease with which the attacking ship could be conned when bringing the ahead-firing weapon into action.

The next development was the "Squid," an ahead-firing mortar which fired three large charges fitted with time fuzes. This, the alternative to firing a large number of small charges, proved the more successful, and had the additional advantage that the charges *always* exploded, thereby having an important effect on the morale of the crews of the U-boats in cases where lethal damage was not actually inflicted.

Of the 524 enemy submarines destroyed by British forces in World War II, over 200 were accounted for by ships equipped with the devices and weapons referred to above, while a further 31 were dealt with by A/S vessels operating in conjunction with aircraft. There had been progressive improvement in the performance of the Asdic, and we ended the war with a nicely balanced combination of effective apparatus for the location of submerged submarines and an armoury of weapons having a high probability of success coupled with considerable moral value.

What of the future?

We have been told on high authority that the submarine will probably be capable of remaining continuously submerged from the time that it leaves its base until the time at which it returns, and that it will most certainly be capable of proceeding at high speed when submerged.

The plain answer seems to be that we met and defeated the menace in the past, and that if we devote the necessary amount of our time, money, and resources to the problem we shall do the same again. It is rather important that we should do this before rather than after the event.

STRINGER LAWRENCE

BRIGADIER H. BULLOCK, C.I.E., O.B.E., F.R.HIST.S.

II. MAJOR OF THE COROMANDEL GARRISONS (1748)

THOUGH the news did not reach England until after Lawrence left for India, Madras had surrendered to the French in September 1746. The seat of the English East India Company's trading activities was then transferred to Fort St. David, lying on the coast a mile or so from Cuddalore, between that place and Pondicherry; and it remained there till 1752. The French had long before chosen Pondicherry as their centre of authority, military base, chief port, and vital strong-point. For the British, Fort St. David, though in several respects ill adapted for the like purposes, now had a similar importance thrust upon it.

The British settlement or trading station at Fort St. David-cum-Cuddalore had been founded fifty years back. It measured four miles by three. The area had been determined by a clause in the agreement by which the Fort was ceded by the Marathas. It was to include all those lands "within the random shott of a piece of ordnance", and the English merchant who went there to settle the details took with him from Madras the best gun and the man most skilled at laying it. Cuddalore, where the Company had its factory—which of course does not mean a manufactory, but the place where business was done—and its godowns or warehouses, was across a river a mile away from the Fort. The Company's servants—factors, writers and merchants, as they were styled—had made themselves as much at home as they could, in pleasant houses with leafy gardens. The whole Bounds were enclosed by an aloe hedge, and the town of Cuddalore by a very ordinary wall.¹

Today Pondicherry is still a seat of French government from Europe, but St. David's lies in forgotten ruins, and the lonely vestiges of its great masonry casemates can scarcely be discerned through the tangled undergrowth. Yet it had its days of glory; and in the careful records kept by the Council there, a body of which Stringer Lawrence was a member, we find valuable evidence of his doings at this period.²

It was probably at the Cape of Good Hope that Lawrence learnt of the fall of Madras and of the consequent rise of French power and prestige. The whole of the foundations of the English Company on the coast of Coromandel were now gravely threatened. Since Madras went, St. David's itself had suffered four French attacks, all mercifully unsuccessful. The Garrison of Fort St. George which Lawrence had been sent out to command no longer existed; and when he got to Batavia he must have heard that he would land at Fort St. David instead of at Madras.

The local powers, potentates and politics must here be given brief notice. The Subahdar of the Deccan, or Viceroy of the South, anciently but now only theoretically deriving his authority from the Mughal ruler in Delhi, appointed a Governor known as the Nawab ("Nabob") of the Carnatic or of Arcot. Amongst the succes-

1 *Clive of Plassey*, by Mervyn Davies, pp. 48-49.

2 Records of Fort St. George. *Fort St. David Consultations*, 1748, Madras, Government Press, 1935. *Ibid.*, 1750, also published in 1935. Cited hereafter as FSDC.

sors, rivals and claimants to one or other of these offices the French and British sought and bestowed support as it might suit the purposes of their own plans. Nizam-ul-Mulk, Subahdar for thirty-five years, died in 1748. The throne was then seized by his son Nasir Jang, to the exclusion of his nephew Muzaffar Jang who was his own nominee as successor. Muzaffar chose as his general Chanda Sahib, detained by the Marathas since 1741 but formerly chief minister to the Nawab of the Carnatic, "a man of no family or riches, but endowed by nature with talents, and a capacity that made ample amends for what fortune had denied him" as Lawrence has described him. Procuring Chanda Sahib's release, Muzaffar Jang went with him to Pondicherry, where they raised an army, obtained French support, sought out and engaged the contemporary Nawab, Anwaruddin, and slew him in July 1749 at the battle of Ambur. The nawabship was then claimed on the one hand by the victorious Chanda Sahib and on the other by Muhammad Ali Khan, son of Anwaruddin.

For our purposes it is enough to bear in mind that the French ranged themselves with Muzaffar Jang and Chanda Sahib, while the British came to support the causes of Nasir Jang and Muhammad Ali Khan. For the sake of simplicity we shall spell their names as they are given above, even when we quote from original sources. They have been written in many ways, from Lawrence's "Anaverdy" (for Anwaruddin) to Fortescue's no less barbarous "Murzapha" for Muzaffar. The orthography of place-names has often been silently altered also. But we claim no exactitude where we have found none.

These were the major local potentates, the "Country Powers" or "Country Princes" of the old accounts. Some others make an occasional entry on the scene, such as the King of Tanjore. Their position was uncertain and precarious, and we need not trouble ourselves with their political or military significance which though often exaggerated at the time was mostly small.

* * * *

The Company's ship *Winchelsea* with Lawrence on board left England in convoy on 18th February 1747 and did not reach India till 20th December when she called at Balasore. Thence she made for Fort St. David, coming to anchor there on 13th January 1748. The long passage must have been immensely tedious. Five ensigns who had come out with Lawrence lost no time in representing to the Council "that from the length of their passage and the ships they came on touching in their way at Madeira, Madagascar, Batavia, Malacca and Balasore, they had been at a great expense which had they come directly here, as they were informed they should, would have been avoided"; and with the Major's backing they were given compensation, two months' pay and diet-money. On 18th January Lawrence took over command of the Garrison which had been under the temporary charge of Lieutenant John Holland. This officer, though under orders from London to transfer to Bengal on relief, showed a proper spirit by electing to stay at Fort St. David "as this is likely to be the seat of war and it is to be hoped that some expedition will shortly be made against the enemy". The Council approved of his remaining as a supernumerary, and his hopes were soon realised.^{2A}

Without delay the new Commander of the Garrison went about the task of organisation. The settlement of Fort St. David lived under the present fear of a fifth and perhaps fatal attack. Madras had had it: their turn might come next. Discipline was Lawrence's first concern, and he applied to the Council to authorise the appointment of a president and judge-advocate for courts-martial. "Major Lawrence being the properest person we can think of for the former", he (perhaps not unexpectedly) was appointed president, and one of the ensigns whom he had brought out with him was made judge-advocate.

^{2A} FSDC, 1748, 13, 14 & 18 Jan., 29 Feb.

Lawrence found no real military system whatever at Fort St. David. The Company maintained enough armed men to guard its factories and supply occasional escorts. When Madras fell it had had only two efficient officers and five others, and two hundred European soldiers for duty, with two thousand irregular "peons" of whom two-thirds had no firearms and some "topasses" of slightly more military value and nominally of mixed Indo-Portuguese blood. The local armament was manned by the "gun-room crew", a party of stray gunners taken from ships, with little experience and less discipline. There were no mounted troops. By transforming this unpromising rabble of commercial caretakers into a disciplined force capable of vigorous and successful operations in the field, Lawrence was to earn his title of "Father of the Indian Army".

No document which we have found shows exactly what soldiers he found at Fort St. David. Regular returns had fallen into abeyance, though he revived them later. In August 1747 three hundred able-bodied Europeans were there, of whom seventy had just come from Bombay. Nearly a hundred more came out in the convoy with Lawrence, and a draft of 113 was received from Bengal at this time. The accounts for January 1748 show one major (Lawrence), 4 lieutenants, and 21 ensigns (including Lawrence's five companions and one Robert Clive, a young civil servant out of employment since Madras had fallen). One of the lieutenants was the Engineer, and the seniormost was too ill for duty. Altogether there may have been four hundred European soldiers of sorts on the spot.³

By early February he had turned the gun-room crew into a Train or Company of artillery.⁴ The records of the Council do not tell us when the infantry companies were first established; but by 2nd April some were already in existence, doing duty at Cuddalore. More difficult and quite novel was the raising of a small body of European cavalry "to facilitate any expedition we may undertake against the enemy". The Council without hesitation sanctioned the purchase of a hundred horses, and gave authority and funds to an officer who was going to Negapatam to buy as many remounts as he could. For some time thereafter the minutes record purchases of horses for the projected Troop: "a good bay Manilla horse", 100 pagodas, "a Persia horse and 3 Manhillha horses with their furniture", 334 pagodas, "a pied horse with a chaise and furniture", 125 pagodas, "a grey Arabian horse", "a grey Persia horse", and "a Pegue horse". (The official value of a pagoda was eight or nine shillings).⁵

Lieutenant George Jones, the Engineer, submitted on 22nd February "an estimate of warlike stores and utensils necessary for a siege of 4,000 men appertaining to the Train of Artillery", which was sanctioned by the Council "as it is not to be doubted when our grand fleet arrives but that we shall be assisting in acting the offensive part". They were to be procured immediately as "we don't know how soon we may have occasion for them". This is the earliest indication that word had come of Boscawen's expedition. The items included 25,000 roundshot, nearly 150,000 lbs. of gunpowder, 2,000 sandbags, 150 pickaxes, and a theodolite. Proper military training was begun without delay. Lawrence announced that he would "encamp the forces in a few days to the northward of the new plantation, in order to perfect them in the duty of a camp". Free rations were sanctioned for these troops, and the Steward was ordered to lay in "a large stock of provisions and follow the directions he shall receive from Major Lawrence regarding the distribution of the same". Other matters which were quickly taken up were the supply of essentials—gunpowder, lead, copper, grain and rice—and the provision of reasonable pay for non-commissioned officers.⁶

3. FSDC, 1748, 21 Jan; *Calendar of Madras Despatches 1744-1755* edited by H. Dodwell, Madras, 1920, cited hereafter as *Cal.*

4. *Cal.* p. 50 (13 Feb. 1748. FSDC 1748 are silent on the point and do not mention the Train till 11 April).

5. FSDC, 1748, 20, 25 and 30 Jan., 19 June, 2 and 14 Sept.

6. FSDC, 1748, 22 and 29 Feb.

On the last day of March orders came from London appointing Lawrence to be Third in Council, and he took his seat accordingly. The Directors stipulated that though a member of Council he was "not to be embarrassed with any affairs other than the care of the military". Despatches arriving overland from Bombay on the same day brought the official news that "there is a squadron of men of war coming out under Rear Admiral Boscawen on an expedition into these parts", and the Steward was directed to lay in a large quantity of provisions against their arrival. Lawrence and the Engineer were now given a wide discretion to get munitions and equipment, being allowed practically to help themselves to anything useful they might find on board the Company's ships coming into the port. Broadcloth, a staple article of the Company's trade, was issued from their godowns to the lieutenants for the clothing of the troops. Enough horses had been bought to warrant the raising of the Troop of cavalry, and men were drafted in from the infantry companies and officers were appointed.⁷

More intimate was the question of Stringer Lawrence's stipend, which was to assume great importance later. As we have seen, the Directors in London had resolved to engage him "at the salary of £250 per annum and one hundred guineas for his charges out", and that "being called in, he was acquainted therewith". But they wrote to India in slightly different terms, in a despatch which travelled out with him, saying that they had engaged him on the same rates as his predecessor Major Knipe, viz. £250 a year with one of the companies, and diet-money of ten pagodas a month.⁸ On 2nd April, three days after he had become a member of the Council, he put it to his colleagues:—

Major Lawrence having receiv'd no salary or allowances since his arrival here and being unwilling to receive what the Company have appointed him as they are much less than they promis'd him in England he should receive here, it's agreed that his salary be augmented to three hundred pounds per annum and his other allowances to fifty pagodas per month, both which is to commence from his arrival in Bengal.⁹

A discrepancy is evident. The minutes in London show that he accepted £250 a year and £105 passage-money. The Directors' despatch allows him rather better terms, £250 a year with one of the companies, which meant not that he was to get the pay of a company commander in addition to his salary of £250 as Major of the Garrison, but that he would without extra remuneration command a company in addition to his duty as Major. The charge of a company would benefit him by allowing him to make the usual profit, then and for long after recognised as perfectly legitimate, from the supply of his men's clothing. This view is supported by another passage in the Directors' despatch, which ordered that in future the Major and lieutenants were to have the clothing of the companies instead of the Paymaster. Yet Lawrence complained that the terms contained in the despatch were much less than the Directors had promised him in England, and the Council were thereby led to raise his pay to £300 and his allowances to more than £240 yearly. To this we must add another £70 which he drew as Third of Council.¹⁰ It seems that he was disingenuous.

Professor Dodwell's explanation of the discrepancy—that no one knew what Knipe's salary had been owing to the loss of the Madras records to the French—can hardly hold water, since in saying that Lawrence was to draw the same salary as Knipe the Directors went on to specify what Knipe's pay had been, viz., £250 a year.

7. FSDC, 1748, 29 March, 2, 11 & 12 April; *Cal.*, p. 54.

8. *Cal.*, p. 44 (despatch of 18 Feb. 1747).

9. FSDC, 1748, 2 April.

10. *Cal.*, p. 52.

In his later work, *Dupleix and Clive* (1920, p. 55), Dodwell seems to have abandoned his earlier theory.¹¹

When news of the enhanced rates sanctioned by the Council reached London, after the long delay which was then natural, the Directors replied (27th January 1749) that, though the Council had misunderstood their instructions, they confirmed what had been done, in view of Lawrence's past and present services; but they enjoined that no agreement made with the Company was thereafter to be altered without express permission.¹² They were later to repudiate this approval, with serious consequences.

To return to the local scene at Fort St. David, by the end of April the Council were in a position to report to London that Lawrence was showing great activity and that the Garrison had improved more than could have been expected in so short a time. A council of war decided to demolish houses which blinded the defences: the pay of the topasses was raised on condition that they improved their turn-out by "appearing clean and wearing shoes and stockings" as those at Madras had done: the cavalry troopers were given a pagoda a month more than the infantry: and more horses were bought, including a "black Sumatra horse" for 70 pagodas. The defensive potential was increased by the arrival from England on 8th June of Captain Alexander Delavaux, who had been appointed Engineer by the Directors on generous terms of service, and was also commissioned by them as Captain of the Train of Artillery.¹³ The Directors realised, they said, that when the settlements were founded, the fortifications were planned unskilfully and were now so extensive as to require larger garrisons than the Company could maintain. Also, the inhabitants had in times past been allowed to build too close to the walls of the forts. To remedy this state of affairs they sent out Delavaux to survey all military stores and decide what changes were necessary to render them defensible by a garrison of not more than six hundred. When he had made plans of his proposed alterations, the Council were to examine them in consultation with Lawrence. Estimates were to be drawn up and the necessary materials provided, all with the greatest frugality. Stress was laid on the need for a good water supply. The despatch went into much other detail: for example, more engineers were to be trained, making use of any local talent, and all sober and able-bodied soldiers were to be encouraged to learn the gun-drill, with the prospect of transfer to the better-paid Artillery Company as an incentive.¹⁴ All this seems very practical.

Now the pace of events quickened. The squadron of the Royal Navy which since the beginning of the year had been operating along the Coromandel coast put to sea from Fort St. David on 10th June on sighting eight or nine French ships. Dupleix at once judged that their departure might leave the door open for an attack on Cuddalore, next by the Fort. The minutes of the Council take up the tale:—

17th June 1748. Early this morning received advice that the enemy march'd out of Pondicherry last night to the number of about two thousand men blacks and whites, and about 8 a.m. received further information that they were marching to the south-west. At noon they were due west of us, and about four miles distant from our limits, when some deserters came in, from whom we learnt they had two thousand men of which about nine hundred were Europeans and that their design

¹¹ *Cal.*; compare Dodwell's introduction, p. x, with the despatch itself at p. 44.

¹² *Cal.*, p. 76.

¹³

¹⁴ *Cal.*, pp. 57, 58.

was against Cuddalore. At four in the afternoon they marched further southward and by the close of the evening came pretty near our Bounds, to the southward of Cuddalore, upon which a party of sepoys were ordered by Major Lawrence into that place and soon after he went there himself. At a quarter past nine this night, the enemy made a furious attack upon the south side of Cuddalore with the small arms, but met with so warm a reception that they soon slackened their fire, and by ten o'clock march'd away in great disorder.

18th. At break of day none of the enemy were to be seen, and soon after advice was brought in that they were west of our Bounds and at about five miles distant where they halted till noon when they muster'd their men and found a deficiency of seven hundred men as we are informed from one of their serjeants, who was there at that time and deserted to us in the evening. And this night the enemy returned to Pondicherry. Of the enemy we have taken prisoners two Europeans, nineteen sepoys, one Portuguese, and three Coffrees, besides which nine Europeans have deserted to us, and not one of our people receiv'd the least hurt, or deserted from us. By the advices we have receiv'd, we learn that about thirty of the Europeans were killed and fifty blacks, and that their dead and wounded of the former were carried off. Many dead bodys have been seen in the woods by the country people, and it is judg'd their whole loss amounted to at least two hundred men.¹⁵

A legend has grown up about this engagement, from a story perpetuated by Orme on the authority of Clive. Though it has been repeated by Malleson, Fortescue and other historians it is devoid of fact. When Lawrence heard of the French advance on Cuddalore, the story runs, he "ordered the garrison to march out and the cannon to be removed to Fort St. David, intending by this operation to make the French believe that he did not think the place tenable. As soon as night came on, the garrison, augmented to the number of 400 Europeans, were sent back to Cuddalore, with the precautions necessary to prevent the enemy from receiving intelligence of their return. The stratagem succeeded. At midnight the French advanced with scaling ladders:"¹⁶ But as Dodwell has pointed out, not a man nor a gun was withdrawn.¹⁷ If Clive was present on this occasion, as his latest and best biographer states that he was,¹⁸ his recollections are unreliable. The time of the French attack was 9.15 p. m., not midnight* ; and Lawrence could not have sent 400 Europeans into an outpost out of a total force of about 500, leaving his main stronghold at Fort St. David virtually unprotected. Moreover, the Consultation written up within a few hours distinctly state that he sent a party of sepoys, not of Europeans. Lawrence's stratagem thus consisted not in withdrawing the garrison and guns and replacing them after nightfall with a large reinforcement of Europeans, but in deceiving the French with false intelligence and then reinforcing the garrison under cover of darkness—a less dramatic way of going about things, but no less effectual.¹⁹

This was Lawrence's first encounter with the French, for he is not known to have seen any actual fighting when he was in Flinders in the summer of 1745. Moreover, it was the first clash between French and British troops in India. Before he left the East Indies, the power of France had been shattered into fragments that she was never able to piece together, by means which he and his disciple Clive had set on foot. In those forty-five triumphant minutes at Cuddalore, on the night of 17th June, in his fifty-first year, Lawrence began to make history.

15 FSDC, 1748, 17 & 18 June.

16 Orme, 1861 edition, vol. i, p. 91.

17 *Dupleix and Clive*, by H. Dodwell, 1920, p. 26.

18 *Clive*, by Mervyn Davies, London, 1939, p. 56.

*Dodwell (*Dupleix and Clive*, p. 26.) puts it as early as 8 p.m.

19 See also *Cal.*, p. 78; FSDC, 1748, 28 June.

Acclamation of the success was general. When the Directors heard the news, they remarked on Lawrence's bravery and good conduct, and on the gallant behaviour of Hollond, who was rewarded by nomination to succeed to the command should Lawrence be absent or die. Lawrence himself was prompt to commend the rank and file: he represented to the Council that "the military both white and black as well as the sepoys and peons...behav'd extreamly well and therefore" should be given "a small reward on this occasion to induce them to behave in like manner for the future, as we are likely to have many opportunitys of trying their courage". Those were not the days of medals and decorations. A trading company gave utilitarian rewards. It was agreed to "present to the military that were then in Cuddalore two shirts each, to the heads of the seapoys a few yards of broad cloth, and to their people the value of one rupee each to be laid out in a turband or a piece of cloth, and the Paymaster is ordered to make the shirts with expedition, as also to pay the seapoys etc. as above".²⁰

Griffin's squadron returned to Fort St. David on 23rd June, the French squadron having given him the slip and got through to Madras while he was cruising vainly off Pondicherry. He hastened to congratulate the Council on the success of their forces in his absence, and at the same time inquired whether they considered themselves of sufficient strength to defend the Fort and Bounds in the event of his again going in search of the enemy. Lawrence and Delavaux were asked for their appreciation of the military situation, which was:—

We are of opinion that the Garrison of Fort St. David may be kept against all the forces the French can send, but not without withdrawing all your soldiers into it and leaving Cuddalore and all your Bounds exposed to the enemy. Could the Company's soldiers already on board the Fleet be returned to us and we supply'd with 500 more men, we should be able to cover the whole. The State of the Garrisons:—

European soldiers	..	..	..	..	..	354
Topasses	..	..	..	..	..	371
Corporals	..	..	..	..	..	40
Recruits just arriv'd	..	..	..	..	..	79
						844

Griffin then summoned a Council, who were unanimously of the view that they should return to the Fort all the Company's ships serving with the squadron, and all the Company's sldiers serving in His Majesty's ships. He desired Governor Floyer to state whether this reinforcement would enable him to defend the Fort and its dependencies against any attempts of the enemy, for if so he was determined to sail off after the French. The opinion of Lawrence and Delavaux was again taken. It was to the effect that the powder mill, Cuddalore and the rest of the Bounds would require an extra five hundred men if the Fort was not to be exposed to the risk of a surprise. Sending this on to Griffin, the Council added a note that they had just heard that the enemy had marched out of Pondicherry a thousand strong, with several pieces of cannon. Griffin decided to remain at Fort St. David: the danger of leaving it to be protected by the scanty land forces alone was too great.²¹

* * *

We now come to the sorry tale of Boscawen's expedition against Pondicherry. As Lawrence was not fated to take part in any but the preliminary phase, it will be described only very generally, except in so far as it directly concerns him.

²⁰ *Cal.*, p. 78; FSDC, 1748, 28 June.

²¹ FSDC, 1748, 24 & 26 June. The Council meeting on the latter date was a special session held on a Sunday afternoon.

On learning of the fall of Madras, the Company sought help from the Crown. Rear-Admiral the Honourable Edward Boscawen, a rising leader, young and successful at sea, was sent out with a considerable fleet carrying a substantial contingent of troops. He was given command of both land and sea forces, and by judicious use of the two in combination it was confidently hoped that he would soon reduce the French power in the Indies, where Pondicherry was the obvious objective. For the land attack he had brought with him twelve independent companies, recently raised, half from drafts from regiments in Ireland and half by recruitment in Scotland by gentlemen given captains' commissions on condition they found their men themselves. The Scots contingent, for want of recruits, had to be completed with deserters, Jacobite prisoners of the Forty-Five, and even highwaymen who had been pardoned on condition that they enlisted. Their military value is hard to assess. Probably much of the raw material was good, but whether their hearts were in their task and they had received any adequate training are open questions. To these companies Boscawen could add what the Company was able to spare of their garrisons, under Lawrence. In the aggregate his very mixed force amounted to about 3,720 men including 800 marines, a Dutch contingent of 120 Europeans from Negapatam, and a number of sailors. Lawrence contributed some 750 Europeans with 300 topasses.²²

Boscawen himself arrived at Fort St. David on 26th July. He at once announced to the Council that he proposed to march for Pondicherry "in a week or ten days at the farthest"; and they put their local resources at his disposal—grain, transport oxen, peons, "a handsome table for the General"²³ and several others for his officers", and for the private soldiers "provisions and drams." As we have seen, Floyer, Lawrence and Delavaux had long been storing up all manner of useful things for the expedition, from which everyone expected so much. On 8th August "the whole army march'd from the new plantation towards Pondicherry and encamp'd on the other side of the Punniar river". The troops were much impeded by their baggage, as was often to happen during Indian campaigns during the next century, and by 12th August they had only got as far as Ariyankuppam, two miles from Pondicherry, where there was a fort in French occupation about half a mile inland. It was a strong position, but they tried to take it without reconnaissance and without scaling ladders, so that they had a hundred and fifty casualties without gaining any advantage. Resort was had to regular siege operations. On 19th August the French launched in a sortie a body of sixty European troopers who had been encamped outside the walls, with infantry support. Their attack was against a part of the trenches manned by sailors. As luck would have it, Lawrence was in command of the trenches that day. The sailors gave way at once. Lawrence, with Captain Alexander Bruce of the Independent companies, stood his ground. He defended himself with spirit but was disarmed of his sword and obliged to surrender, whereupon a French trooper hurried him away beside his horse into Ariyankuppam. Fellow-prisoners were Bruce and six British soldiers. The whole affair lasted no more than fifteen minutes.²⁴

He was taken with his companions in misfortune to Pondicherry, "where their arrival caused great enthusiasm. Dupleix came in person to receive them, treated the prisoners with the greatest consideration, returned their swords to the two officers, and gave them every attention which was possible in the circumstances".²⁵ The minutes of Fort St. David make doleful reading:—

²² Orme, 1861 edition, p. 98; *Dupleix and Olive*, p. 27.

²³ Boscawen was commissioned *ad hoc* both as Admiral and as General.

²⁴ FSDC, 1748, 26 & 28 July, 8 Aug.; *Cal.*, pp. 59-61; Orme, vol. I. *passim*.

²⁵ Orme, p. 100 *Dupleix et la defense de Pondichery*, by Marquis de Nezelle, Paris, 1908, pp. 189-190.

20th August 1748. "The President acquaints the Board that by a letter he has just received from camp he is inform'd of the melancholly news of Major Laurences (sic) being missing, who commanded the trenches yesterday morning when the enemy made an attack on them, for which the Board are under the deepest concern".

22nd August 1748. "The President now lays before the Board a letter that is just come into his hands from Major Lawrence at Pondicherry, wherein he acquaints him of his being a prisoner there with Capt. Brice belonging to the Independants, but neither of them had received the least [hurt]".

After spending eleven days in the unnecessary attack on Ariyankuppam and another five days on the equally useless task of restoring it to a defensible state, Boscawen was faced with his main problem, how he was to take Pondicherry. Lawrence had been of the opinion, put on record as long before as February, that the place could be carried after thirty days' siege-operations from open trenches, and advised that the trenches should be begun as near the walls as possible. There can be little doubt that this view was known to Boscawen, but when it came to putting theory into practice he was deprived not only of the advantage of Lawrence's presence but also of the benefit of aid from another of his most experienced officers, Major Goodere of the King's service, who too had been lost, died of wounds received before Ariyankuppam. Boscawen, with no knowledge of the conduct of war on land, never even seems to have made up his mind whether he was trying to besiege Pondicherry or merely to blockade it. He took up his post in high land distant from the town and sea, in a position to which he could only convey his munitions and stores with much difficulty and risk from the ships seven miles away, whilst large intervening marshes prevented him from pushing his trenches far enough forward to permit of batteries established therein being effective in breaching the defences. The batteries were not completed till 25th September, nine days before the monsoon rains were due to break; and an eleventh-hour attempt to use the guns from the ships lying a thousand yards out at sea, in a bombardment in which they were joined by the land-batteries, did but little damage to the French fortifications. The enemy indeed alleged that the only casualty was "a poor old Malabar woman in the street". By 2nd October he had lost over a thousand men, mostly by sickness, without having effected anything. On the 6th he gave it up and raised the siege. The minutes of Fort St. David quaintly record the arrival first on 7th October of "General Boscawen with all the forces" and then of "His Majesty's Fleet under Admiral Boscawen" on the following day: he had been commissioned as General of the land forces for the purposes of this enterprise.

Thus ended a costly and futile venture. For its utter failure the sailors blamed the engineers, and the soldiers blamed both. Years later a more mature Clive wrote; "if there be any officers or soldiers in India remaining of those who were at the siege of Pondicherry twelve or thirteen years ago, experience must have convinced them how very ignorant we were of the art of war in those days. Some of the engineers were masters of the theory without the practice, and those seemed wanting in resolution. Others there were who understood neither, and yet were possessed of courage sufficient to have gone on with the undertaking if they had known how to go about it. There was scarce an officer who knew whether the engineers were acting right or wrong, till it was too late in the season and we had lost too many men to begin an approach again". But posterity has mostly laid the blame upon Boscawen.. We may leave it at that. ²⁶

Lawrence was not forgotten. Boscawen tried to arrange an exchange of prisoners with Dupleix, who was willing to give them all up—except Lawrence. To this Boscawen replied that unless Lawrence was handed over with the others, all French prisoners in British hands would be sent to Europe. Dupleix seems to have countered with a threat to send Lawrence to France. By the end of October negotiations had broken down, and the Council despondently recorded that “as there is little hopes left of seeing Major Lawrence here again, he having wrote the President that Mr. Dupleix has ordered him prepare to go to Europe, and as it is necessary to have a commanding officer of the military in the Garrison, it’s agreed to give a Captain Commandant’s commission to Captain John Hollond”. In the end deliverance came not from any local effort but through the receipt on 20th November of news via Bombay from London that by the treaty of Aix-la-Chapelle the two nations had agreed on a cessation of hostilities in the East Indies from six months after 19th April—a date which had already gone by when the news came through. Boscawen at once passed the information to Dupleix, who although he half suspected a trick immediately released Lawrence and Bruce on parole. Returning to Fort St. David, Lawrence reassumed command of the Garrison, and was back again at his seat in Council by 28th November. Hollond, on relief, went off to Bengal at last.²⁷

²⁷. *ESDC*, 1748, 24 Oct., 20 & 28 Nov., the second being another Sunday afternoon session; *Cal.*, p. 62.

HONG KONG SEES RED*

“ DHOBI ”

AS the columns of General Liu Po-Changs, 14th Communist Army, approach Canton, the most important town in South-East China and the provisional capital of the Kuomintang Government, the threat to the British colony of Hong Kong becomes imminent and real. Once again within ten years it is seriously menaced and this time its very existence is in danger because, sooner or later, the Communists are bound to ask for the return of this Chinese territory to China. Even the Kuomintang party members had begun to clamour for its return, hardly before the Japanese were driven out and their uncompleted victory tower in Hong Kong had been demolished. Faced with this threat the British had begun to prepare the garrison for defence. Two brigades, one British Parachute and one Indian State Forces Brigade, assisted by a band of enthusiastic civil servants brought back the colony to normality in record time till by the end of 1946 the last sign of the Japanese occupation had been removed and Hong Kong became a brisk trading centre.

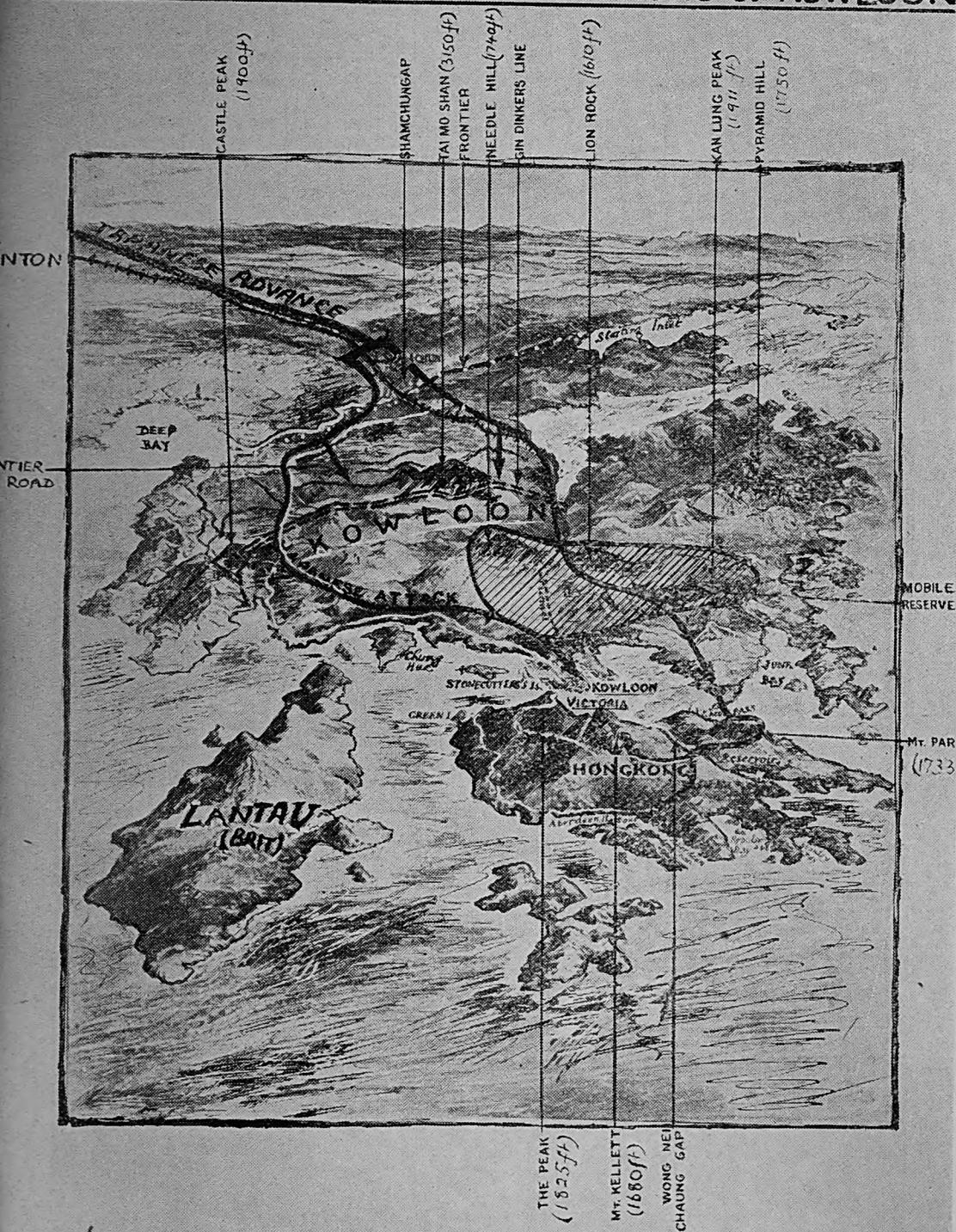
I was astonished to see the recovery, the shops full of the latest American merchandise, the roads packed with the latest model cars driven by rich Chinese with beautiful bejewelled women. Where and how had this money come, so quickly after the return of the British? Hong Kong had the richest Chinese and they had kept their treasures buried during the Japanese occupation. The British defeat, the Japanese occupation and the British return seemed to have made no difference whatsoever in their outlook, wealth and position. They had flourished throughout the three convulsions, and as long as they can prosper they would not mind the least who rules them. That may be the attitude of some rich Chinese but most of them would flee the Red Army as they had run away from China, to find shelter elsewhere, but there is a greater mass of Chinese who are poor and who see in the approaching threat a wonderful opportunity to loot. And loot they would as they did when the Japanese were pressing hard the garrison of Hong Kong. On 15th December 1941 Sir Mark Young, the Governor, wrote that “the most serious problem is the control of the Chinese population.” They not only deserted in large numbers, indulged in looting but also carried out subversive activities for the Japanese. That there would be a far greater number of fifth-columnists working for the Chinese Communists is a foregone conclusion as is reflected by the Chinese looting and arson in Kowloon in November, 1948 and the murder of a British official earlier this year. Realising these grave dangers Mr. A.V. Alexander, the Defence Minister of the United Kingdom, recently visited the colony to see things for himself.

The threat to Hong Kong would come from Canton, only seventy miles away as the crow flies and the first town to be occupied in 1830 by the “barbarians” for spreading their control over China. History seems to be repeating itself except that it is working in the reverse order. All the foreign concessions and possessions have been eliminated working downwards from Peking, Shanghai, Amoy and now Canton, leaving Hong Kong the sole remaining ulcer on the south-east coast.

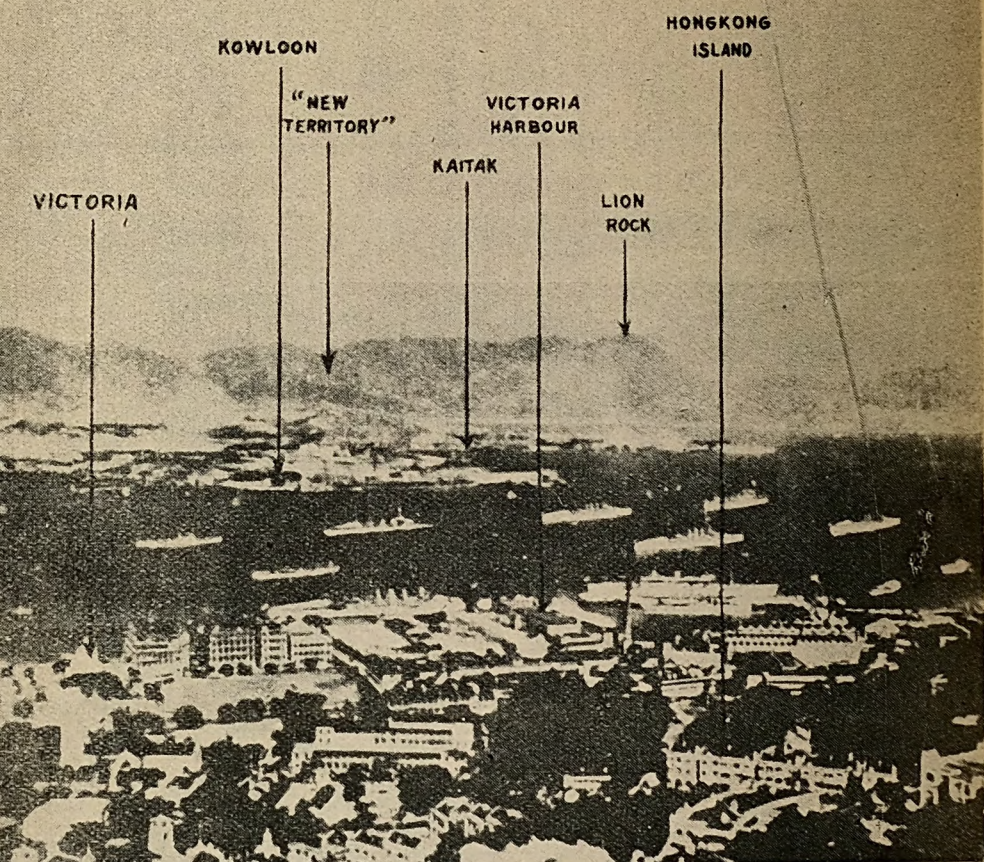
The Communist attitude towards Hong Kong is much of an enigma but its outlines are perceptible from their general attitude towards the Western Powers.

*This article was written before the fall of Canton—Ed.

THE BRITISH COLONY OF HONGKONG & KOWLOON



HONGKONG & KOWLOON ON RECAPTURE IN 1945



INDIAN TROOPS MARCH THROUGH KOWLOON IN 1945

Their policy would be directed not only by international and political considerations but also by national aspirations. The Chinese do not like the foreigners, who have been meddling in their affairs for the last 100 years. The Communists also cannot readily forget the American backing in men, material and money to bolster up the crumbling edifice of the Chiang-ke-Shek Government and the attitude they may adopt is indicated by their shelling of the British frigate *Amethyst* in the Yangtse.

Even if the foreign powers adopt a conciliatory attitude it is quite possible that the Communists would not forget the lessons of the past hundred years and would not commit the mistakes of their predecessors by allowing footholds on territory, which could be later converted into springboards of aggression against their sovereignty and political stability.

It was in 1830 that the East India Company asked for trading concessions in China and established a factory in Canton. After that what happened there is reminiscent of what happened in India except that China was never completely subjugated either due to lack of resources or the attitude of America.

The Chinese resisted the commercial infiltration of the "barbarians" because they were aware of the fate of India, Malaya and Philippines, where these concessions backed by force were conveniently converted into political and territorial demands. The officials of the Emperor refused to have any official dealings with the British traders and did not amend their laws as desired by them. The Viceroy of Canton wrote, "The nation has its laws, it is so everywhere. Even England has its laws. How much more the Celestial Empire! How flaming bright are its great laws and Ordinances! . . . Barbarians are permitted (in Canton) to eat, sleep, buy and sell in the factories but are not permitted to go out and ramble about."*

The Communists after a struggle of a quarter of a century would not like the foreigners to have extra-territorial concessions, or roam about at will producing anti-Communist agitations. Do they consider that Hong Kong will be used for such a purpose? Events must give their own answer.

Why does Britain want to hold on to this precarious foothold? It cannot be a mere question of prestige because she has given up far bigger possessions like India. Hong Kong occupies a very important place in the Anglo-American strategy in the Pacific. Hong Kong-Formosa-Okinawa is the inner ring of defence against Communist infiltration, buttressed by the outer ring of Japan-Philippines and Malaya. And Britain retains Hong Kong by right.

Will the Communists regard treaty rights as sacrosanct? Once again their attitude cannot be accurately forecast. But they would be on a strong moral wicket because Hong Kong was acquired after the "Opium War" and Kowloon leased for ninety-nine years after the "Battle of Concessions" when foreign countries were tearing bits out of the decayed empire of the Manchus. The Nanking Treaty of 1842 and the Agreement of 1896 may be scrapped by the Communists as many other treaties by other powers in the past. The only thing which may keep the Communists back from launching a direct assault on Hong Kong, would be the realisation that it may have serious international repercussions. And the British are determined to make the best of their diplomatic and legal position and are preparing vigorously to defend this bastion in the Far East.

*Morse, H.B., *International Relations*, Volume I, pp. 126-127.

In 1946 the Indian Sappers were working strenuously to strengthen the defences of the "New Territory" of Kowloon on the mainland, and since then these defences must have been properly organised to meet any onslaught. Preparedness is the best security and there is a possibility that this show of force and the determination to fight may postpone the evil day till the Communists are well established in South and East China and successful in completely liquidating their rivals in the hills of Central China. They would not be in a position to take on the two commitments simultaneously. But if the Communists suspect that Hong Kong would be used to assist their rivals by providing them sanctuary, advice and material they may not attack it directly but try to squeeze it out as was tried many years ago. Once in complete control of the hinterland the Communists can effectively blockade Hong Kong by land. The British could still use the sea and the rather dangerous aerodrome of Kaitak, but these would be available only as long as they can hold on to the "New Territory" the lease of which expires in another 45 years. Perhaps that is not too long a period to wait.

But why should the British like to remain in a beleaguered position for such a long time and commit precious troops and material in a far-away corner while they are needed sorely at home? The answer as stated already is linked up with the overall strategy of defence against Communism. From the commercial point of view the colony would lose its importance if the Communists decide to invest it because all the trade is with the hinterland and not with Hong Kong itself. Today in China, Hong Kong is the best organised and administered, and the most prosperous, port of trade. Its stability may be an attraction for the Communists and they might leave it in British hands if they want foreign trade and exchange. The British may have to accept some restrictions similar to what they agreed to with the Japanese when they occupied Canton and threatened to assault the last Chinese stronghold of Chungking.

But now we would examine the position of the colony in case it comes to a show of arms, the Chinese attacking it with Communist stupidity and the British holding firm with bulldog tenacity. It is quite obvious that it would not be a lone battle but we would confine our discussion to this local affair only.

Hong Kong is 1440 miles from Singapore and in case of need it could only be reinforced by sea unless the Viet-Nam and Thailand Governments grant airport facilities for planes flying from Singapore. While the occupation forces are located in Japan it may be possible to bring in Australian and possibly American forces, in case a Pacific Pact is signed. But Hong Kong can take in only a limited number of troops because of its size.

The colony of Hong Kong consists of a number of islands off the south-east coast of China commanding the entrance to the Pearl River on the mouth of which Canton is situated. In addition it includes the leased territory of Kowloon on the mainland.

Hong Kong has all the drawbacks of an island position. It is isolated, depending on all supplies by sea; it has an area of 32 square miles, mostly mountainous; and a population of 800,000 who have to get every ounce of food from outside. The food and water are two difficult problems but "the most serious weakness of the situation is the presence of 750,000 Chinese in the city of Victoria." * For the purposes of defence it is not isolated enough and cannot be converted into a fortress because it is separated by a channel 300 yards wide only and has a floating water population of 150,000 Chinese which cannot be easily controlled. It is indefensible without the depth of the New Territory because once the mainland is in enemy hands the defences of Hong

* War Office appreciation 1941.

Kong can be masked by mortars and even small arms fire. The port of Victoria can be put out of commission and the supply ships can only anchor dangerously in the southern harbour of Aberdeen. But if the Communists capture Kowloon they would also occupy the aerodrome of Kaitak, the only airfield in the colony. It has not been found possible to construct any aerodrome on the island. Kaitak is a dangerous airfield, a graveyard of many airships and only usable in good weather. For the reasons explained above it must be obvious that the defence of the "New Territory" is essential for the defence of the island and is more important in the present case because attack, if it occurs, would be land-based as the Communists have neither the air nor the naval forces to mount a combined operation directly against the island.

The 200 miles leased territory is for the most part mountainous and uncultivated except for a broad swamp and irrigated land in the south-west, near the frontier which runs from Starling Bay to Deep Bay along undulating ground up to Shamchun Gap and then south of the river of the same name. The frontier defence line is devoid of any tactical features and difficult to hold unless it is occupied in strength, which would require at least an infantry brigade, a tank regiment and a field artillery regiment. With pill-boxes and properly defended localities this line can delay the advance of the enemy for some considerable time for the consolidation of the main defence line from Tide Cove to Castle Peak Bay running along the Tai-Mo-Shan (3,100 ft.) and Castle Peak (1,906 ft.) features. This line was known as the "Gin-drinkers' Line" but was penetrated by the Japanese within 48 hours due mainly to lack of sufficient troops to man the line, thus permitting infiltration, and lack of reserves to counter-attack. Tai-Mo-Shan is the highest point in the area and the line would have all the advantages of defence. It has a railway line, two main roads and many tracks joining the rear, and given two brigades it can be turned into a fortress. The forces from the frontier posts can fall back on this line and the artillery and armour should be located there. It is possible to carry out protracted defence in this area with the help of naval guns and land and carrier-based planes. It can be turned into a Tobruk. The only defect appears to be that the Kaitak airfield and the naval dockyard of Victoria would come within artillery range of the enemy once the British forces withdraw to the Gin-drinkers' Line. But this would have to be accepted in order to strengthen the main defences. The position would be in depth and protective measures would be taken against enemy landings in the rear along the vast coastline. A flotilla of M.T.Bs. for patrolling Mirs Bay and Deep Bay on either flank would check this. A mobile reserve of one brigade would have to be located in the Lion Rock (1,618 ft.) and Needle Hill (1,741 ft.) area with connecting roads to Pyramid Hill (1,752 ft.) on the right flank. Many of the tracks leading to these hills were already being turned into roads fit for MT and tanks during 1946.

The Japanese attacked the mainland position with two divisions with a third in reserve. They not only outnumbered the garrison of five battalions but were also superior in training and preparations. Till the last moment, due to constant changes in the plan, the British positions were never properly organised. The Japanese advance was assisted by intelligence and fifth-column activities in the rear. They knew of all the weak positions in the defences and lost no time in occupying and exploiting them to their advantage. The Japanese attack on the "New Territory" began on December 5, 1941 and by the 13th all the British forces on the mainland were forced to withdraw to the island. The rapid withdrawal came as a great shock to the civilians who had anticipated a much longer resistance. Perhaps, the next time they may not be disappointed because Britain, benefiting from the lessons of the 1941 campaign, would certainly garrison these strong, natural defences with adequate forces. But now for a moment we may suppose that the Communists decide to overrun this position without caring for cost in men and material; and this they can do because as explained earlier they can

always concentrate far superior land forces. Once in possession of Kowloon, the second phase of operations, the defence of the island, would start.

The central Wong Nei Chong Gap divides the island clearly into two sectors, East and West, with Mount Parker (1723 ft.) and the Peak (1825 ft.) dominating hill features on either flank. Between Mt. Parker and Mt. Killeck (1680 ft.) south of the Peak, are the water reservoirs, the Achilles heel of the defence position. The Japanese landing parties crossed the narrow channel of Lyemun Pass under the cover of smoke from the burning oil and petrol tanks, south of Mt. Parker. It is quite obvious that once any of these dominating hill features are captured and consolidated by the enemy it would be difficult to carry out a protracted defence of the island, because devoid of water supplies from the mainland the vast population would have to depend on these reservoirs which they would not be able to do once the enemy is anywhere near the Wong Nei Chong Gap through which the pipe-lines run to Victoria. It was the early capture of these water reservoirs which forced the British garrison to surrender so quickly. The initial garrison of two brigades would occupy the chain of defences based on the three main hill features, thwarting any enemy landings along the vast coast-line of the island. In the second phase when the mainland is overrun by the enemy the island forces would be strengthened by the overland forces withdrawn to the island. Despite casualties it would be reasonable to estimate that at least one brigade and a good proportion of armour and artillery would be withdrawn to the island. The armour would be placed in the Wong Nei Chong Gap and the infantry would man the already prepared defences. An infantry division should be sufficient to hold the island. A bigger force would be a great strain on the supply services of the island, already overworked trying to feed the vast Chinese population. Feeding and controlling this humanity would be a problem and it would not be unreasonable to expect that Britain would evacuate the unwanted population of Hong Kong to Formosa or even to Malaya and register those who could not be moved. The remaining population would have to be moved to the Aberdeen side because it would be unable to stay in Victoria under constant enemy shell fire. For this purpose dugouts with necessary arrangements would have to be prepared in peace on the sides of the hills.

The Japanese attack on Hong Kong clearly revealed the weaknesses of the defences, and benefited by the lesson the British are likely to organise the garrison properly this time. It appears that they no longer consider Hong Kong "an undesirable military commitment" and would prepare it for a protracted defence till the issue can be decided on a wider basis on other battlefields. While preparing, Hong Kong looks at the approaching red with determination.

EDUCATIONAL TRAINING IN THE ARMY

LIEUT. COLONEL B.P. SHARMA, M.B.E.

EDUCATIONAL Training is an integral part of the training of a soldier and there are four reasons to make it part of the normal military training :

(a) The variety and difficulty of the battle training of a modern soldier render it necessary that he should be quick, intelligent and as far as possible, of a ready understanding. It would require undue expenditure of time and energy to impart military and battle training to men whose mental capacity is not developed. Educational Training makes up for this handicap and prepares a cultivated soil in which military training takes root and grows quickly and easily. A soldier should understand what he is being taught and the reasons for his instruction. Unless his general intelligence is properly developed, specialised instruction cannot be imparted because he cannot grasp technical terms etc. Knowledge gives self-confidence which would enable the soldier to function calmly and efficiently in any crisis.

(b) The Standing Army, a small professional force, is in fact the nucleus of what in the event of war would become a country in Arms. It must therefore not only provide the spear-head of any military action that the country might take but also provide the frame-work for expansion. The first essential in the expansion is leaders, who must be competent to command formations of all sizes from the lowest to the highest. These leaders would primarily be drawn from the regular forces, if rapid and effective expansion is to be ensured. They must also be immediately forthcoming on the outbreak of a war. Junior leaders must also be available in large numbers. The senior Division of the National Cadet Corps, the Prince of Wales Royal Indian Military College and the K.G.R.I. Military Colleges and the ranks of the regular forces would be the many sources which would supply this material. Irrespective of rank the leaders must be educated. Very rarely does any uneducated person make a leader. It is therefore necessary that even the sepoy, who is to be the potential platoon commander, should be educated.

(c) For a soldier, mental fitness is as necessary as physical fitness and general education is intended to make (and keep) him mentally fit.

(d) It is now an accepted principle that a country—e.g. the Indian Union—which depends upon a short service, voluntary army, the personnel for which are drawn in early manhood, from civil life, must ensure that the soldier on his return to civil life should not be handicapped in earning a livelihood. He should on the other hand, be able to assume leadership in civil affairs, as during his stay in the forces he should have developed character, discipline, a sense of responsibility, courage and initiative. The complete object of modern military training, therefore, is to produce an efficient soldier, an educated man, a good citizen and a competent workman.

The types of education could be classified as (a) general and (b) vocational. In both categories the standard of knowledge should rise according to the rank. The first essential for the soldier is to learn Hindustani—the lingua-franca of the Army. The minimum standards of educational attainments for a soldier are :

- (a) ability to take part in simple conversation in Hindustani on military topics;

- (b) literacy in Hindustani in Roman characters, i.e. ability to read intelligently simple selected passages from the training manuals and ability to take simple dictation from passages previously read ;
- (c) ability to do simple arithmetical problems like addition, subtraction, multiplication and division.

While these are the minimum requirements for military efficiency, it is essential that opportunity should be available for the men to become proficient in their own mother-tongue.

The educational training of the short service soldier should prepare him for return to civil life and aim at (a) making him efficient and (b) making him a good citizen of his country.

To attain the first aim, it is contemplated to provide facilities—either within or without units—for instruction in Everyday Sciences, e.g. agriculture, physical geography, dairy farming, and individual and co-operative farming. For the second, it is contemplated to teach Indian citizenship on lines similar to those prescribed for High Schools.

Educational training being an integral part of the training of a soldier, the Commanding Officers are responsible for it in the units as in all other types of military training. To assist the unit commanders in discharging their responsibility, to direct and control educational policy and to ensure educational efficiency throughout the Army, an Educational Training Section (MTS) is incorporated in the Military Training Directorate in Army Headquarters. At Headquarters of each Command there is a 1st Grade Officer and a 2nd Grade Officer assisted by a Subedar Major of the IAEC to run the Command Education. These Officers tour units and formations in their Commands and ensure uniformity of training and standard. At each Area Headquarters there is a Staff Officer 2nd Grade assisted by a Subedar IAEC, while at each Headquarters of a Div/Sub Area there is a Staff Officer 3rd Grade assisted by a number of Jemadars IAEC, usually three. IAEC (Specialist) personnel are attached to every unit to act as organisers, advisers, instructors and examiners. Each Regimental Centre has a staff of one senior JCO and a number of IAEC Jemadars and Havildars.

To meet these requirements an Indian Army Educational Corps has been formed as a combatant unit. It consists of Officers, JCOs, and Havildars drawn from civil life and from different units of the Army, and trained in the Army School of Education, Pachmarhi, (C.P.) It is contemplated to post one JCO and one Havildar per Company as soon as the organisation is complete and trained personnel are available. IAEC personnel will be posted to units of other arms on the same proportionate basis.

It is necessary to have good accommodation for schools. The provision of additional and adequate school buildings will take time.

An adequate supply of good books in English, Roman-Hindustani and various other Indian languages should be available in addition to books prescribed for Army examinations. Instructional books are a problem, and will remain so until qualified Indian authors write books on various subjects.

The General Staff should encourage people to write books in Roman Hindustani. The Ministry of Education should organise a Bureau of Current Affairs and arrange for the provision of suitable technical and training equipment, particularly required for teaching "Everyday Science".

The Commanding Officer being responsible for education, it follows that subordinate Commanders would be responsible within their respective spheres. To encourage educational training it may help to lay down a condition that an officer should have undergone a course at the Army School of Education and obtained a satisfactory report before being promoted to the rank of Captain. A paper on educational training should be set in the examination for promotion from Captains to Majors. The requisite knowledge regarding the theory and practice of educational training should, therefore, form part of the stock-in-trade of every Commander.

It should be clearly understood that the presence of IAEC personnel in a unit is not to absolve officers and others from their responsibility in regard to Educational Training, but to augment their resources. The Platoon Commander should be responsible for the actual teaching of his men up to the standard required, viz. second class examination. He must also be able to deliver lectures on various subjects and be able to supervise the work of study groups. The members of the Indian Army Educational Corps cannot take over this responsibility completely.

The principles which must determine the organisation of educational training in the Army and govern the methods of teaching men within units, can be expressed by the following extract from the report on adult education. "It is evident that the education for the adult must proceed by different methods, in a different order, from those mostly used hitherto in the education of the young. The adult even when he has forgotten most of what he learnt at home or school cannot be put back several years. In between his 14 and 18 years he has been receiving an education formless indeed and fragmentary, but emphatic enough, and in its way effective, the education of practical life. His adult education must be taken up at this point and on this plane. It must work for his existing avocation and interests, must begin by answering his existing inquiries and perplexities and go on to the satisfaction of his aspirations. It must show him the reasons that underlie his daily work, the way in which that work has come to be arranged as it is, and how it can be arranged better, the relation of his work to that of others, and its place in the economics of the nation and the world. This method must produce surprising results. Students 18 years old from villages or slums of the towns might be seen learning—and eagerly learning—Geography, History, Arithmetic and outlines of other branches of knowledge. For instance, teaching Arithmetic, recruits dig a trench; "how many carts will they need to carry off the earth dug out?"

The chief results, briefly, of the early experiments carried out by the Army Education Authorities have brought out:—

- (a) The size and promising character of the field—many hundreds of recruits at the ages of 18-20 are eager for education.
- (b) The large number of men capable of being developed into educational instructors out of the rank and file of any battalion.
- (c) The excellence of the method of training by questions and answers between the instructor and the class.
- (d) The way in which a Sepoy, once he sees the scheme at work, realises its possibilities, and grasps the difference between education and mere technical drill.

For the successful application of the above principles for educational training within units, certain conditions are essential. The first is the necessity to determine the educational standard of the individual as soon as he joins the unit. This should be done by means of a written and oral test conducted by IAEC personnel. It should be designed to determine whether the man is:—

- (a) Illiterate.
- (b) Fit for R.T. class certificate.
- (c) " " Third " "
- (d) " " Second " "
- (e) " " First " "
- (f) " " Army Special "

The second essential condition is the organization of the actual work of teaching. In this connection the first thing to remember is that the old fashioned methods of the class-room teaching, now sufficiently obsolete even for child education, are completely unsuited for adults. The organization should be designed so as to ensure that every man works co-operatively in a 'study group'. Each group should be under an instructor. The instructors will generally be the platoon commanders or specially trained and selected personnel. In the case of 1st Class and Special Certificates it would generally be necessary to run regimental classes, or central classes on a station basis, where selected instructors and the IAEC Educational Staff can help.

The third essential is to pay proper attention to the periods of training. It has been laid down that a minimum of six hours per week should be devoted to educational training and such training should be carried out during usual working hours. The work of military training as a whole (including education) should be so distributed throughout those hours as to ensure that educational training is not invariably undertaken during the part of the day when the men are physically tired. Physical freshness is necessary for full mental effort, and physical exercise in the open air, not over-strenuous, can follow as a wholesome relaxation for tired mental faculties.

Every effort must be made to improve receptivity of the individual. Success will depend upon the adoption by educational staffs of an attitude of intelligent and helpful guidance, and by the creation within units of a clearly defined yet elastic organization, permitting educational instructors and students fullest opportunity to develop and express individuality.

The success of educational training within a unit is to be judged not by statistics of the number of men attending classes, by the number of hours worked, or by the number of certificates gained, but by the ability to produce efficient, educated men, competent workmen and good and patriotic soldiers.

AIR POWER IN NAVAL WARFARE

DR. SRI NANDAN, M.A., PH.D.

INTRODUCTION

NO apology is required for trying to assess the influence of aircraft in naval warfare. Being comparatively a new weapon, its role and potentialities are not properly understood, even among Service men. The matter has been the subject of bitter controversy, often generating more heat than light. But enough facts have now been collected by a study of the last war to sift the grain from the chaff and to arrive at a balanced judgment.

The problem is to examine the influence of carrier and land based aircraft on every aspect of Sea Power, such as naval battles, use of the ocean highways for commerce or war, denial of the seas to the enemy, and combined operations. A correct appraisal of what happened in the immediate past has more than a historical value—it is the basis on which to form estimates for the immediate future. These estimates, in their turn, must form the basis of all warlike preparations. Hence the importance of such study.

Before proceeding further one important point may be noted. It is the superlative importance of specialised training and equipment in the success of air operations. Coming so late in the evolutionary process of war, air forces naturally demand greater integration and differentiation than the older weapons. An airforce trained for Blitzkrieg is not quite satisfactory for strategic bombing, as shown during the battle of Britain. Similarly, specialised training for naval warfare is required before an air force can play its part effectively over the sea. Even in naval warfare, there must be different planes and different pilots for dive-bombing, torpedo-bombing, scouting and fighting. Anti-submarine duties, again, require special equipment and training. These factors must be borne in mind to understand the very different records of air forces in the European and the Pacific theatres of the War. Had the Italian and the German air forces been as "sea-minded" as the Japanese, they might have changed the course of the war.

NAVAL BATTLES

It appears beyond doubt that aircraft decide modern naval battles. Other advantages, such as superior speed and superior armour, are still useful in battle, but superior air power is now of overwhelming importance.

Intelligence of the enemy fleet is the primary requisite in naval battles. Aircraft are the best means of securing this information. Their long range enables them to search large areas of the ocean, and to report back by wireless on the enemy's position and strength without revealing the position or strength of their own fleet. The initiative, so invaluable in modern war, rests thereafter with their own fleet. The importance of early intelligence of the enemy may be judged from the American disaster at Pearl Harbour and the triumph in the Battle of Midway.¹

1. In the Battle of Midway, the Jap forces were discovered by American air scouts on June 3 when still 700 miles west of Midway.

After discovering the position and strength of the enemy, aircraft can do either of two things. If they are in sufficient strength, they can strike the enemy at once and decide the battle. If enough planes are not at hand, air power can still cripple some important units of the enemy, as happened at the Battle of Cape Matapan. An inferior fleet can thus be brought to action, when otherwise it would have escaped and remained a menace as a "fleet in being".

Finally, in an all out fleet engagement, planes, if the right types are available, invariably decide the issue. In the great naval battles fought in the Pacific, superior air power always won. The Battle of the Coral Sea opened at a range of several hundred miles, carrier-planes from either side attacking the enemy fleets. The Japanese advance was checked, but no battleship fired a single gun—apart from the A.A. guns. The pattern was repeated at the Battle of Midway, when the Japanese lost four of their carriers by air attacks. Of this, the most decisive battle of the Pacific War, the United States Strategic Bombing Survey reported, "Deprived of its carriers, the Japanese Fleet was forced to retire despite its preponderance in heavy ship strength."¹ No better testimony to the overwhelming importance of air power in naval battles can be desired. Surface units did not enter into the picture at all, since the 'coup de grace' to a warship stricken by air attacks, when required, was delivered by submarines².

Before quitting the topic of naval battles, it is necessary to notice briefly the controversy about "the battleship vs the carrier". Some diehard experts still insist that the plane is only one of the several new weapons of the navy, and the battleship retains its place as the final argument in any naval battle³. The extreme air enthusiasts, on the other hand, assert that the plane has rendered all surface vessels obsolete. "What have the battleships done in this war, except to get sunk, anyway?", say some of them. But it is now possible to arrive at the truth between these conflicting claims.

The answer to the exaggerated claims of the air enthusiasts is easy. The commerce of the world, in peace as in war, must still be carried on in surface vessels. Planes cannot handle those billions of tons, yet, for many years to come. Surface vessels, therefore, still remain of vital importance.

But it appears certain that the aircraft-carrier is the key-vessel of the surface fleet now. The battleship must be replaced, and can remain only as an auxiliary with a subordinate role. This may sound revolutionary in cold print, but has already happened in actual warfare, as related above. It is remarkable and significant that the combatants in the Pacific always looked upon the carriers as the key to the whole battle. As soon as the enemy airmen contacted the fleet, they went straight for the "flat-tops", leaving the battleships as of no particular importance. They turned to the battleships and the cruisers only when the carriers had been disabled or sunk and the battle thus already decided⁴.

Let us examine the problem of "the battleship vs the carrier" from another angle, viz., the statistical. In the Pearl Harbour disaster, seven U.S. battleships were sunk or seriously damaged by carrier based planes. Fifteen U.S. battleships were damaged near Iwojima and Okinawa by the Japanese 'suicide-planes'⁵. No U.S.

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1. U. S. Strategic Bombing Survey, Summary Report, (Pacific War).
 2. For example, the U. S. Carrier "Yorktown" during the Battle of Midway.
 3. cf. Bernard Brodie, "A Layman's Guide to Naval Strategy". From his "Strategic Air Power", Dr. Possony also seems to have a soft corner for the battleship.
 4. cf. Capt. W.D. Puleston, "Influence of Sea Power in World War II". Alden and Westcott, "History of the U.S. Navy".
 5. U.S. Strategic Bombing Survey, Summary Report (Pacific War).

battleship was lost to enemy surface gun-fire. Of the five British battleships sunk during the war, two were sunk by air attacks, two by U-boats and only one—the “Hood”—by an enemy battleship.¹ Of the German battleships, only the “Scharnhorst” was sunk by surface gunfire, while the loss of the “Admiral Graf Spee” may also be credited to the same account. But the “Lutzow”, the “Admiral Von Scheer” and the “Tirpitz” were all sunk by planes—though not carrier-based—and the “Bismarck” too was lost more due to planes than battleships. Of the two Italian battleships lost, at least one—the “Roma”—was sunk by a glider bomb from a German plane. The Japanese had every single battleship sunk or seriously damaged in the war, the vast majority of them by carrier-planes.

Carriers, therefore, were responsible for the majority of battleships sunk or seriously damaged in the war, including such mighty giants as the “Bismarck”, the “Yamato” and their sister-ships².

On the other hand, of the dozens lost, only a single fleet-carrier was sunk by battleships during the entire war³. Even if the three small escort-carriers (converted merchantmen) surprised and sunk by Japanese battleships during the Battle of Leyte are taken into account, the balance remains heavily in favour of carriers as the more potent weapon.

Finally, there was the significant story of the two Japanese “hermaphrodite” warships. The “Hyuga” and the “Ise” were battleships which had to be converted into carriers when the importance of carriers was finally realised. These hybrid battleship-carriers had flight decks aft and 14” guns forward!

It should be quite clear, therefore, that the carrier must now be regarded as the queen of the fleet and all naval groupings and manoeuvres must be based on her. The battleship might yet remain a part of the fleet, though meant only for the confused, close-range fighting at night or in very bad weather. It is now a weapon only for in-fighting—like the bayonet in the age of the machine-gun. The bayonet is still useful in some situations. But, in modern warfare, situations giving proper scope to the bayonet and the battleship must be somewhat rare.

The aim of naval battles is to establish command of the seas, so that our own ships may ply unhindered and the enemy shipping may be swept off the area. It is, therefore, important to examine what aircraft can do, firstly, to insure the safety of our own shipping, and, secondly, to deny the seas to enemy shipping.

PROTECTION OF SHIPPING

Insuring the safety of our own shipping means combating (a) the enemy’s surface raiders, (b) his U-boats, and (c) his long range bombers.

(a) The basic problem in combating the surface raider is to discover or contact it in the vast expanse of the oceans. In the past, this duty devolved upon the cruisers and their attendant destroyers. Maximum visibility at sea in perfect weather is about 20 miles. A surface patrol can, therefore, sweep a lane only about 40 miles broad through the ocean. If an escort-carrier is added, or if the cruiser can launch a few planes by catapult, the breadth of the sweep is extended to anything between 600-1600 miles, depending on the plane’s cruising range. The advantages are too obvious

1. Of the other four, the “Repulse” and the “Prince of Wales” were sunk by Jap air attacks, and the “Royal Oak” and the “Barham” by U-boats.

2. The 64000 ton “Yamato” and her sister ship the “Musashi” were the only battleships in the world carrying 18” guns.

3. H.M.S. “Glorious” sunk off Norway by the “Scharnhorst” in 1940.

to need detailing. In the last war, aircraft were widely used in detecting enemy raiders. The example of the "Bismarck" showed how successful and vital their role could be in that task¹. Firstly, an observation plane of the Coastal Command sighted her in Bergen Harbour on May 21, 1941, and warned the British of her intentions. This lack of surprise led to her interception by two cruisers near the Greenland Straits on May 23. When the Bismarck broke through the net by sinking the "Hood" and damaging the "Prince of Wales" on the 24th, it was aircraft, again, which sighted her on the 26th. There can be no telling what she could have done if she had not been disabled by torpedo-planes from the "Ark Royal" the same evening. The role of aircraft in combating surface raiders was dramatically revealed in that incident.

(b) U-boats made continuous progress in their design, armaments and tactics during the last war. They were not finally beaten before the war ended. The new Walther U-boats of revolutionary design with very high under-water speed and range were just getting under production when their bases and factories were overrun. How serious the position had at one time become may be judged from the fact that in 1942, 8,245,000 tons of Allied shipping was sunk, while total Allied production was only 7,182,000 tons². The situation was saved only when large numbers of planes were thrown into the Battle of the Atlantic. Escort carriers appeared in substantial numbers, while even merchant ships were converted into M.A.Cs. (Merchant Aircraft Carriers). Long range bombers of the RAF were re-equipped with radar and Leigh search-lights to contact U-boats charging their batteries on the surface at night. Depth-bombs and rockets were fitted into planes for attacking U-boats, which found it increasingly difficult to escape detection and attack even at night³. They armed themselves with good A.A. guns and tried to fight it out with the planes. Then they invented the "Schnorkel" and charged their batteries while still submerged. But the planes kept their ascendancy. Forty U-boats were sunk by planes in 1942, 149 in 1943, 113 in 1944 and, in the four months of 1945, no less than 85. In all, aircraft were responsible for about 56 per cent of the total German U-boat losses during the war, apart from marine accidents⁴. Moreover, the aerial bombing of German shipbuilding yards and submarine pens seriously delayed the production of the Walther U-boats, which would have presented a dangerous challenge if they could have got to the sea in large numbers⁵.

(c) The long range bomber also was defeated; largely by small interceptor planes launched from merchant ships by catapult. The little fighter had to climb up and fight off the bomber and then land in the water near the ship. The lane sank, while the pilot was rescued, if he was lucky. These crude tactics would not have been successful in different circumstances, but the German F.W. "Condors" were weakly armed and their production had soon to be cut down due to the switch over from bomber to fighter production in Germany to counter the Allied "strategic bombing". As better guided bombs are developed, and the speed of bombers improves, the problem of protecting ships from the long range bomber will become increasingly difficult. The only sure solution might be the annihilation of the enemy air forces, which will not be easy and will certainly take time.

THE DESTRUCTION OF SHIPPING

Again, in the task of destroying enemy shipping, aircraft played an important part. They ranged far and wide, bombing and torpedoing ships, and putting their

1. Capt. W. D. Puleston, "Influence of Sea Power in World War II".
2. *Ibid.*
3. Central Office of Information, United Kingdom, "Battle of the Atlantic".
4. Lord Tedder, "Air Power in War".
5. Anthony Martiensen, "Hitler and His Admirals".

submarines on the tracks of protected convoys. How far the success of the submarines was due to friendly aircraft spotting their victims for them can never be properly evaluated. But the destruction of shipping caused by direct air attacks was by itself enormous, as related below.

The Luftwaffe, of course, had specialised in intimate co-operation with the German Army. But, during the Crete affair, it blockaded the island effectively. Of about 27,000 tons of supplies sent to the island, 3,400 tons were sunk, about 21,000 tons forced to turn back and only about 3,000 tons reached the destination. Of the Axis convoys sunk between Italy and North Africa, about 47 per cent was lost to air attacks by planes based on Malta. Of the total enemy shipping losses in the Baltic and North Sea area, about 88 per cent were due to air attacks or mines laid from the air.¹ Only about 20 per cent of the supplies sent from Rabaul by the Japanese ever reached Guadalcanal, due largely to American air attacks.²

Finally, here are a few figures for the war as a whole. It should be remembered that the Axis was on the defensive in the air during the greater period of the war. Still, it was calculated that, out of the total of about twenty-one million tons of Allied shipping sunk, approximately four million tons was destroyed by air attacks or mines laid from the air.³ Of the total of 10,100,000 tons of Japanese merchant shipping of over 500 tons, 8,900,000 tons was sunk or put out of action by the Allies. Out of this total of 8,900,000 tons, 30.8 per cent was lost to carrier and land based planes and 9.3 per cent due to mines "largely dropped by B-29s".⁴ To summarise, planes and mines dropped by them accounted for about 20 per cent of the total Allied shipping losses, and about 40 per cent of the total Japanese shipping losses during the last war.

AIR POWER IN COMBINED OPERATIONS

Combined Operations may be of two types, viz., landing on a hostile shore, and evacuation from a hostile shore. Both used to come under the domain of Sea Power, but both are now controlled largely by Air Power. Air superiority, even when local, almost always becomes the determining factor in the success or failure of a combined operation. The part played by air forces in Combined Operations may be examined under the following heads:—

- (1) Air superiority in defending a shore from invasion,
- (2) Air superiority in invading a hostile shore,
- (3) Air superiority in effecting evacuation, and
- (4) Air superiority in preventing evacuation.

(1) The last war clearly showed that superior air power can secure a shore from enemy invasion. Norway went finally to the Germans because they succeeded in capturing the few airfields in the country—particularly the one at Stavanger—and thus established air superiority in the coastal region. Superior British surface forces did land some troops near Trondheim and Narvik but they had no airfields

1. Lord Tedder, "Air Power in War".

2. United States Strategic Bombing Survey, Summary Report (Pacific War).

3. Admiral Sir Gerald Dickens, "Bombing and Strategy", 1946.

4. U. S. Strategic Bombing Survey, Summary Report, (Pacific War).

It is interesting to record that only less than 1 per cent was accounted for by surface gunfire, while the rest 4 per cent was lost by marine accidents, etc.

and few carriers, so they could not wrest air superiority from the enemy and had at last to be withdrawn. The victory of the RAF in the Battle of Britain rendered a German invasion of England so certain of failure that it was never attempted. In the Pacific, the Japanese armada under way for the invasion of Port Moresby in May 1942 was smashed by air attacks on Tulagi harbour and finally in the Battle of the Coral Sea.¹ Malta too escaped invasion in 1942 because her air squadrons were never totally eliminated, though very near it on several occasions.

(2) The Second World War saw over a hundred and fifty successful landings on hostile shores. In each one of them, the invader had managed to secure air superiority—before the operation or simultaneously. The invasions of Norway, North Africa, Sicily, Normandy; of the Philippines, the Dutch East Indies, Guadalcanal, Iwojima, Okinawa etc. etc., were successful mainly because the invader enjoyed air superiority in each case. In most of the above cases, air superiority was greatly assisted by naval superiority also, but there were many other occasions when the predominant role of Air Power stood fully revealed. The German invasion of Norway succeeded against vastly superior British naval strength because the Luftwaffe secured control of the coastal zone. The Allied landing at Salerno escaped disaster in spite of the overwhelming naval strength at its back because Allied air superiority blasted the German troop concentrations and checked the coming counter-assault.² Finally, the invasion of Crete showed clearly that an invasion can succeed by great air superiority alone, even if the defenders have great naval superiority. In that futuristic operation, not only was the island taken by troops dropped from the air but also the powerful British naval forces severely punished. By the time the British evacuation was completed, the naval losses in the operation added up as follows³ :—

“three cruisers and six destroyers sunk; one battleship, one aircraft carrier, three cruisers and one destroyer seriously damaged; one battleship, four cruisers and six destroyers in need of extensive repairs.”³

No navy could stand such punishment for any length of time.

(3) The part played by Air Power in assisting evacuations is difficult to determine. There were not many such cases to study from the last War, simply because when there was air superiority to assist evacuation, the evacuation itself was not necessary. Superior Air Power checked the enemy ground forces, and the weaker forces at the beach-head could build up their strength, as happened at Salerno. Still, it appears that air superiority would not be of very material assistance to the forces being evacuated. Evacuation must take place in surface vessels, and it would be very difficult to protect these vessels from superior strength of light naval vessels of the enemy. Naval superiority would perhaps be more useful in an evacuation than only air superiority. No lessons can be learnt from ‘the miracle of Dunkirk’ for it appears certain that many obscure and conflicting factors brought about that deliverance. Firstly, the British had great naval superiority; secondly, the Luftwaffe was not specially trained for anti-shipping attacks and was already regrouping for the battle of France; and thirdly, Hitler had ordered his ‘panzers’ not to attack the British at Dunkirk!⁴

(4) In preventing evacuation air superiority again played a dominant part. If air superiority was combined with naval superiority also, the enemy was certainly doomed. Von Arnim had to surrender himself with 248,000 of his troops at Cape Bon in Tunisia when his retreat to Italy was barred by Allied air and naval superiority.

1. Capt. Puleston, “The Influence of Sea Power in World War II.”

2. Maj-Gen J.F.C. Fuller, “The Second World War”.

3. Lord Tedder, “Air Power in War”.

4. Milton Schulman, “Defeat in the West”.

Seventy thousand Empire troops had to surrender to the Japanese at Singapore under similar circumstances. But if the evacuating troops enjoyed naval superiority, air superiority could not prevent their evacuation if they were prepared to pay the price in surface ships. This was shown clearly by the British in Greece, from where about 43,000 troops out of the total of 57,660 were safely evacuated, and in Crete, from where 14,180 men were got away, only 13,000 being lost in killed and captured on the island.¹

It is thus clear that Air Power is the most important factor in combined operations also. The side that secures air superiority has won more than half the battle.

It is a peculiarity of combined operations that they always involve both land based and carrier borne planes. As such, it might be useful to discuss some of the special technological problems entering into the fight for air superiority in a combined operation.

Usually, it is considered axiomatic that land based planes will be superior in performance to similar types of carrier based planes. Greater maximum speed of an aircraft, for example, involves greater landing speed also. Since the length of the carrier's landing deck is strictly limited, the landing speed of its planes must be limited and so the maximum speed of the plane must also be limited. Airfields generally can afford greater length of runway, so that land based planes can have greater speed. One device for overcoming the drawback has been to use "arrester wires" for bringing a plane quickly to a stop after landing on the flight deck. Again, heavier carrying capacity means longer take-off run for a plane, and here also the carrier based bomber is at a disadvantage. The auxiliary "Jatos"² in the latest types of planes certainly reduce the take-off run very considerably, and are very useful indeed for carrier-based planes. But the land based planes also use "Jatos" and other improvements, so that, theoretically speaking, the carrier-based planes must still remain inferior to the land-based planes.

But this is not so serious as it may sound. It only means that, type for type and model for model, the carrier's planes will be somewhat inferior. But it does not mean that the land-based heavy bomber will be superior to the carrier-based interceptor fighter. For another truism is that, given the same technical skill, the bomber will generally be no match for the fighter in speed and fire-power, and the long-range escort fighter will be weaker and slower than the short-ranged interceptor. Moreover, exactly the same standard of technical excellence in warring nations is never encountered in actual warfare. Even if the technical excellence of the two sides be almost equal, a carrier-based plane may prove superior in warfare if it is a later model.

These factors were clearly revealed in the Pacific War. That theatre saw a very large number of successful combined operations, in almost everyone of which the carrier-borne planes overwhelmed the defending land-based planes. The Japanese captured a huge territory, including the Philippines, because their carrier planes were superior in numbers and performance to the defending planes, most of which were obsolete machines. Then, as later models of American planes arrived, they had no difficulty in establishing air superiority over Jap held islands, even though the Jap planes were often land-based and the American planes carrier-borne. Philippines and a large number of islands were retaken, the American carrier-borne planes consistently driving the Japanese land based planes from the air.

1. Maj-Gen J.F.C. Fuller, "Second World War".

2. "Jatos" means Jet-assisted-take-offs. They are small dry-fuel rockets fitted to a plane to give a short burst of very high acceleration, so that the plane may take to the air after a short run.

To summarise, the aeroplane has emerged out of the last war as the Master Weapon in naval warfare. Superior range and adequate striking power have characterised the Master Weapon throughout the ages. The aeroplane eminently fills the bill in these particulars. It may still lack somewhat the reliability and consistent performance of the older weapons, but these have been noticeable in every new weapon. Even today, Air Power has become a 'necessary condition' of success in every naval operation and a 'sufficient condition' for some operations. It has increased immeasurably the power of modern navies, so that combined operations and attacks on defended harbours have lost their old terror. The strategy of a "fleet in being" may no longer hold good in the face of superior Air Power. The navy that loses control of the air over its home waters is doomed. Surface ships, however, remain indispensable for carrying bulky cargoes and as floating airfields.

SOME PRESENT TRENDS

It would be the height of rashness and folly to try to predict about naval warfare in the future. Technological improvements are being introduced with bewildering rapidity, and any one of them might change fundamentally the present position. Still, every nation must try to distil the lessons out of the immediate past. These lessons cannot be ignored or neglected simply because the future might prove them invalid. And, for the immediate future, lessons of the immediate past have every likelihood of holding good.

Strictly within the above context, it does appear that attack is proving superior to defence in naval warfare. It means that, in a future war, it will be easier to sink ships, both merchantmen and warships, than to protect them. It means that, whereas in the past even the weaker naval Power could frequently save its navy and merchant marine in its defended ports and inland seas, in the future it will face utter annihilation. And it means that even the stronger naval Power will have to suffer grievous losses in maintaining and exercising its command of the seas¹.

This trend in favour of the attack is amply illustrated by a study of the two World Wars. In the First World War, the German navy was, throughout, vastly inferior to the combined Allied fleets, which included the navies of Britain, Japan, France, Russia and Italy, and the U.S.A. also from 1917. It still remained almost intact and untouched at the end of the war. That was because the Allied fleets were not able to penetrate into the Baltic due to the fear of mines and U-boats, and were not able to bombard the defended German ports because coastal batteries were heavier and more accurate than ship-borne guns.

In the Second World War, on the other hand, the navies of Germany, Italy and Japan were in a far stronger position compared to the British, American and Russian navies than the old German High Seas fleet had been. Yet they suffered incomparably greater losses. The Italian fleet surrendered only after losing two battleships and many cruisers. The German surface units had been almost entirely annihilated including six battleships sunk. The powerful Japanese fleet, which ranked third in the world in 1939, survived the war with only one cruiser and twelve destroyers in serviceable condition. The weaker naval forces were thus almost completely annihilated.

1. In arriving at this conclusion, we need not necessarily quarrel with the "Constant Tactical Factor". Maj-Gen. Fuller only meant that every new dominant weapon leads to the invention of its counter-weapon—that when the balance is tipped in favour of either attack or defence, human ingenuity is impelled to redress the balance, and always succeeds. But there is always a time-lag between the appearance of the master-weapon and its counter, so that actually the scales between "attack" and "defence" behave like the sea-saw and not like a stationary, horizontal rod. cf Maj-Gen. J.F.C. Fuller, "Armament and History".

The stronger forces also suffered grievous losses. In the war of 1914-18, Britain lost only 2 Dreadnoughts, 2 battle-cruisers, 3 aircraft carriers and 64 destroyers; in the last war she lost 5 battleships and 5 carriers and 127 destroyers. In the first war, the U.S.A. lost only one cruiser and two destroyers, while in the second she suffered seven battleships sunk or seriously damaged at one blow, and lost five fleet carriers sunk. The U.S. navy was vastly superior to the Japanese in 1944-45, but had to suffer damage to twelve fleet carriers, sixteen light or escort carriers and fifteen battleships by Kamikaze attacks.

This superiority of attack has been brought about largely by the aeroplane and the submarine.² They are old weapons, both of them. The part played by the submarine in the First World War is well known. What is not so well known is that aircraft also revealed their potentialities during 1914-18. Planes patrolled the seas looking for submarines, and acted as scouts for the battle fleets. The infant British air force even attempted a "Pearl Harbour" on the German fleet lying off Cuxhaven on Christmas Day, 1914.³ But the aircraft of 1914 lacked effective missile as well as accurate aiming devices. Modern aircraft have both.

Modern aircraft have effective missiles for every type of vessel afloat. Before the last war, some experienced sailors asserted that the well-armoured warships—the battleships in particular—were almost impossible to sink from the air. The argument ran somewhat as follows:— A missile's Kinetic Energy of Impact is proportional to its mass multiplied by the square of its velocity. The mass of a 16" naval shell is 2460 lbs, which was about the weight of the heavy bombs also in the early period of the war. But, according to the above formula, velocity is far more important than mass in producing a heavy blow. The muzzle velocity of a 16" naval shell is about 2900 ft per second, and the velocity even at extreme ranges is about 1500 ft/sec. The conventional bomb attained a velocity of only 880 ft/sec even when dropped from 20,000 ft, and its terminal velocity was only about 920 ft/sec during free fall⁴. It was argued, therefore, that naval shells were far superior to aerial bombs, and since battleships were meant to withstand naval shelling, they would stand aerial bombing even better. This reasoning had its flaws, since the battleships sides usually have about 16" of armour, while their decks, (which have to resist bombs) have only about 6" of armour. It is not easy to have very thick armour on deck because of structural weakness in supporting that weight.

But the picture is now completely changed due to heavier and rocket-driven bombs. Rocket missiles are ideal for planes, and were used by almost all the belligerent air forces during the later stages of the war. Having approximately the striking force of 6" shells, their effectiveness may be judged from the fact that 40 Jap ships and barges were destroyed at Rabaul on May 14, 1944, by rocket-carrying planes. Rockets or "Power-bombs" may have a velocity of about 1100 ft per second⁵. The weights of bombs have also increased tremendously, and the 12,000 and 22,000 pounders are truly devastating. Their ballistics need not be calculated, for their results are clearly apparent. It has now been clearly established without any shadow of doubt that aircraft's bombs and torpedoes can sink the mightiest battleships of the world, as illustrated by the fate of the "Tirpitz" and the "Yamato". Aircraft's missiles are fully effective now.

1. U. S. Strategic Bombing Survey, Summary Report, (Pacific War).

2. The mine is not being classed with them, since it is more akin to a missile than an independent weapon. But the mine is very effective now. The magnetic mine, and the "pressure" and the "acoustic" varieties make it really difficult to protect shipping, especially since they can be dropped even into protected and inland waterways by aircraft.

3. Turner, C. C., "The Struggle in the Air 1914-18".

4. Bernard Brodie, "A Layman's Guide to Naval Strategy", 1943.

5. G.E. Pendray, "The Coming Age of Rocket Power". "Britain at War—The R. A. F."

The same is true of their aiming devices. Bomb sights have improved enormously, and gadgets like the "Gen-box" now permit accurate aiming even without a view of the ground or sea. Above all, guided missiles have been developed, which have practically done away with the conventional aiming. The "H.S. 293" and the "F. X," developed by the Germans at least required guidance by radio from the parent plane after launching. But the "Felix", the "Roc" and the "Bat", developed by the American Office of Scientific Research and Development, simply guide themselves to their target ship¹. The "Bat", in particular, can chase and destroy its particular victim in spite of all evasive action, in a big convoy and even at night or in thick fog! The future pattern of naval warfare may be based on the performance of the two American planes which sank a Jap destroyer with Bats from a distance of almost twenty miles².

Defence against air attacks on ships may depend on (a) Interceptor fighters (b) Ack-Ack or (c) Bombing of enemy air bases. "The bomber will always get through" has been an axiom during the last war. But it appears that the above conventional means of countering air attacks will be even less effective in the future.

(a) There are two reasons why the Interceptor fighter may not be effective. Firstly, the use of "Thrusters" or auxiliary rocket-power units in bombers. These enable a bomber to attain a sudden and substantial increase of speed for a short while during combat. The fighter may have far higher speed than the bomber, but this advantage may be cancelled if the bomber flies at, say 600 m.p.h. instead of its usual 350 m.p.h. during the brief period of the combat. Secondly, there is the fundamental problem of the human factor. The speed of machines is constantly and rapidly increasing, but the speed of human reaction remains largely fixed. Supposing that the bomber is detected 20 miles from its target, the waiting fighter-pilots have enough time to jump into their machines, adjust their straps and oxygen masks and roar off the ground to intercept the bombers. This ceremony of "Scrambling" may take about two minutes, and the time cannot be very much reduced because of the human factor involved. It worked when the bomber was approaching at 250 m.p.h., but it would not work if the bomber approaches at 600 m.p.h. At the modern speed, the bombers will be over their target or already on their way home before the interceptor can contact them. And the bomber's task will be far easier now since it can launch its guided bombs from a great distance, and requires no pre-bombing run over the target.

(b) Anti-aircraft guns may be greatly improved in rapidity of fire and sighting. But there are no reasons to believe that they would be able to bring down every missile launched. The Kamikaze planes were crude and clumsy compared to the "Bat", but 18.6 of every 100 of them launched at the U.S. fleets got through to their targets³. And the guided missile will be far more difficult to hit, since it will be a far smaller target and faster. The parent plane will, of course, remain out of range of the A.A. guns.

Perhaps the conventional A.A. guns will be replaced in the next war by weapons like the "Schmetterling" (Butterfly) which had just been developed by the Germans before their collapse⁴. Meant as the V3, it was a small rocket with a war-head which was fired from the ground and guided itself to the enemy aircraft. But its speed was only between 560-620 m.p.h., and will have to be increased in future models. These guided A.A. shells will be a great improvement, but it still remains

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1. O.S.R.D. "New Weapons for Air Warfare". G. E. Pendray, "The Coming Age of Rocket Power".
 2. G. E. Pendray, "The Coming Age of Rocket Power".
 3. U.S. Strategic Bombing Survey, Summary Report, (Pacific War).
 4. "Britain at War—The R.A.F."

true that they will not be able to destroy a certain percentage of the enemy missiles, which will still get through.

Dependence on the interceptor fighter or A.A. guns or rockets, however, can only be compared to a static defence in land warfare. Static defence is now recognised as suicidal and there is no need to dwell upon its dangers and disadvantages.

(c) Bombing of enemy air bases, ashore or afloat, will certainly give better dividends than reliance on mere defence by fighters or guns. Against enemy carriers, these attacks should be quite successful, as discussed above. But it will be difficult to knock out airfields with underground hangars and good repair facilities. The example of Malta during the last war showed how difficult it is to keep an airfield out of commission for any length of time. And if airfields are suitably grouped together and dispersed, it will be well-nigh impossible to knock them all out. A few well-placed bombs may mean the end of even the largest warships, but the same bombs against an airfield will mean the loss of only a few planes.

Since, therefore, attack is likely to prove superior to defence in naval warfare, fleets may have to be reorganised on a different basis in the future. Utmost dispersion will have to be adopted. One aspect of this dispersion will be that fleets will now cover more ocean space with lighter vessels at the circumference. This will ensure comparative safety in case of an atomic attack. It will also secure early detection of enemy air attacks by the lighter vessels before the enemy can approach the vital heart of the fleet. The second aspect of dispersion will result in a fleet having numerous small carriers in preference to a few large ones. It is significant, in this connection, that the Americans have recently given up the giant carrier "United States" which they were building, probably because it was like putting all your eggs in one basket. Big carriers are useful because they can operate giant bombers and fast fighters. Some may still be built in the future but they will be thrown into the battle only, perhaps, when enemy air power has been largely neutralised.

Pursuing the picture of the future fleet, it appears certain that present-day battleships will be replaced by rocket-ships or carriers.¹ This will be not because the battleship is very vulnerable—in the last war battleships showed that they could withstand more punishment than any other warship—but because it is not very useful now. It is useful now only for in-fighting, for which light torpedo and rocket firing vessels might be more effective. Cruisers may get heavier armour and their main role may be as Ack-Ack ships, like many of them in the last war. Destroyers have proved particularly vulnerable to air attacks, and some experts consider that they may be replaced by smaller and cheaper ships.

Since merchant-ships will be easily destroyed in the next war (if it comes soon) and since a nation's heavy export and import trade still depends on them, modern air power tends to emphasize national self-sufficiency. Only territorial regions rich in both raw materials and manufacturing capacity and having sufficient strategic depth or space can wage successful wars now. Ultimately, civilised life as well as warfare may remain only air-borne, not sea-borne.² When, and if, that distant day comes, Air Power will have finally supplanted Sea Power as the supreme arbiter of all wars.

1. In this connection, note that the new U.S. battleships "Kentucky" and "Hawaii" have already been converted into guided missile or rocket-ships.
 2. cf. Lieut-Gen. Tucker, "The Pattern of War".
 Major-Gen. James Gavin, "Airborne Warfare"

ARE OFFICERS' MESSES SUITABLE FOR INDIAN CONDITIONS? *

SQUADRON LEADER B.K. ROY, R.I.A.F.

TO do justice to the question it is necessary to examine the historical background of military life in India. India's history is battle-scarred. The bow and arrow, the sword, the spear, the battle-axe and the unfailing horse appear at every turn of India's road to destiny.

The makers of the Golden Age maintained armies of millions to guard the frontiers of India. The navy of a lesser prince carried the culture of India across the seas. The Moghul emperors wrote nostalgic memoirs, drank perfumed wine, and loved classical music—but they never allowed their swords to get rusty. The heroes of Rajputana knew but little of such luxuries and lived and died on horseback. Shiva-ji maintained a formidable navy under Arab admirals. Eighty-year-old Hyder Ali led a superb cavalry, experimented with rockets and played havoc with the Deccan. He died and the East India Company lived. One-eyed Hari Singh Nalua came upon the turbulent tribes of the North West like the Scourge of God—and is still remembered in their ballads. All this had been from within; from without—occasional visitors like Alexander the Great, Mahmud of Ghazni and Nadir Shah had come with their magnificent armies in search of diamonds, pearls and sapphires.

The years between the Imperial Guptas and the rise of the British power carry a rich and sordid tale of greatness and ambition, lust and ruin against a backcloth of ceaseless military activity. Military life is not new in India. There had been armies and navies, officers and men. They lived the life of the feudal ages: officers were from the nobility and landed aristocracy, and the men—trusted followers, adventurers and gold-crazy mercenaries.

(The history of the Elizabethan age in England provides an excellent parallel: the fighting gentry, when they did not fight, lived on their estates drinking, duelling, hunting and serenading. Later enterprising "gentlemen" used to raise levies for new Regiments and were allowed to sell commissions as a reward, and this practice continued as late as 1870.)

The Honourable East India Company brought their "little England" with them. A handful of officers lived a self-sufficient life—a sort of mess-cum-club affair, far away from their homes but not any the nearer to the life of this country. "Beer and Skittles", a miniature hunt and a rare ball kept the memory of home alive in the hearts of these lonely and forgotten Englishmen.

Where do the Indians come in? Till the beginning of the Second World War the question was a very minor one. The officers' messes in India were predominantly British in character, everything in good old English tradition offered a sort of psychic compensation to those who kept the flag flying. The few Indians who somehow found their way into this sacrosanct atmosphere have many a story to tell.

September 3, 1939, caught the Allies napping. The slow-moving traditional outlook of the Allies was baffled by the speed with which the German General Staff was working. It was a far cry from the leisurely French etiquette of "you fire first"

* Awarded the second prize in the Gold Medal Prize Essay Competition for 1948.

to the blitz technique of Singapore and Pearl Harbour. Every man who could use his hands and head was needed.

The result was that all class considerations—ancestry, private income, social status : the most cherished principles of “military sociology”—were thrown overboard. In England the baker, the butcher, the grocer and the young undergraduate, all rode cheek by jowl in the superb Battle of Britain.

In India the gathering storm on the eastern horizon changed the slow tempo of oriental life. Officers' messes sprang up like mushrooms—and the people who lived in them came from all classes of society and all corners of the country. It was a motley crowd with half a dozen different languages, cultures and traditions. The mess rules and regulations were relaxed under the pressure of emergency but the way of life, in outline, remained English. Some changed overnight and became more English than the English themselves—others reluctantly accepted the terms and conditions of mess life, ate their soup noisily and met with looks of disapproval, and in camera shared their bearer's food because their curry-crazy stomachs would not take to Irish stew and Yorkshire pudding.

The British have left but their military structure and messes remain. And here the question arises : Are Officers' Messes suitable for Indian conditions ?

I have lightly touched upon the military background of the history of our country in order to emphasize the fact that military life is quite in keeping with our history, culture, traditions and customs. The answer to the more specific question (i.e. the subject matter of this essay) will come out of an analysis of the factors involved, (a) Officers' Messes and (b) Indian conditions.

* The officers' messes came into being sometime in the seventeen thirties. Straddling, an authority on the subject, refers to “The New Art of War”, published in 1740 :

The Commanding Officer, considering how small was the pay of the subalterns, and that they were frequently obliged to go to Ale Houses and Cookshops, not being able to keep company with superior officers proposed that they should eat and drink together, and so that the expenses might not fall heavy upon the subalterns every officer should pay a proportion to his daily Subsistence Money.

This was unanimously approved, and the Ensigns and Lieutenants were thereby capacitated to keep company at a Tavern with the superior officers and thereby have an opportunity to improve themselves in many respects.

In the words of Straddling, the officers' messes were instituted for the sake of Companionship, Convenience and Economy, and to see that (i) the expenses do not fall too heavily upon the junior officers, and (ii) that these young officers are set an example and so trained that they improved themselves under the guidance of those more experienced.

Describing the Mess, he says : It is

- (i) The home of all “living in” officers.
- (ii) The club of every serving officer.
- (iii) The centre of social life of the Station.

* I turn to British history since our messes owe their origin to the British colonial efforts.

Emphasizing the need of correct dress and correct behaviour, he makes a remarkable statement.

"In a well-run mess the abolition of all badges of rank on Messkit would make no difference to the correct behaviour of its members. There is much to be said in favour of such a change as it would remove that regrettable service stiffness that is noticeable in some messes, and add a much-needed touch of informality and freedom from service routine."

It is unnecessary to go into the details of Mess customs and traditions, they will differ from country to country. We are concerned with the fundamentals and in the last analysis they appear to be the same everywhere—Companionship, Convenience and Economy. The mess is a material structure—the life element in it is provided by those who live in it. It is upon the culture and outlook of the officers that the character of a Mess depends.

Whatever the differences between the British and other types, the basically utilitarian origin of the officers' messes is not open to question. In India, as I have already pointed out, the officers' messes have been established in the old English tradition. English social life is standardised and the war has more or less smoothed out the undulating surface of the socio-economic structure of British life. For a young Englishman there is no antithesis between his social background and his military life: he is never faced with the awkward task of compromising with two centuries of which one obstinately looks backward, and the other, perforce ahead.

Indian conditions on the contrary, are extremely varied, as varied as the people and society of India. Our social life is very uneven. Our towns and villages are a hundred years apart. There are many races and religions, many languages, customs and traditions. We have passed through famine and disaster and face disruption and political conflict.

Our officers come from all classes of society—rich and poor, orthodox and unorthodox, modern and conventional, and in varying degrees they share their respective class sentiments, beliefs and faiths. There are vegetarians who eat fish, meat eaters who hate the sight of beef and ham. The burly northerner delights in "parathas" and "morg-masallam", while the southerner goes all out for fish, rice and "rasam". The latter loves his complex music while the former does not seem to hear anything in it except a series of animal noises. Both, however, are charitably disposed towards the love lyrics of Bengal and not altogether unwilling to suffer a jazzy piece from Latin America. Besides, in military life not infrequently the young officer is faced with the problem of living a double life: in the Mess he is easy with his chota peg; on the polished dance-floor he has a wizard time.

At home, in a provincial town or village, it is often a different story. To the old folks the orthodox social customs, traditions and sentiments carry the same meaning given to them thousands of years ago. Our question cannot be isolated from the rest of the social turmoil and answered in terms of officers and officers' messes alone. It is the problem of a whole society, of the unbridged gulf between our background and foreground. It is one of the many puzzles which history puts before a nation in the making, and one to which time always finds a solution.

However, such uncomfortable differences and incompatibilities fill one's mind with apprehensions: would not they turn a Mess into a menagerie? But differences do not necessarily imply conflict; and there is unity in diversity. There is the vital unity of purpose, of national consciousness and that is enough to forge every link in the chain of our national defence. The narrow streaks of provincialism which sometimes distort our vision of the future will disappear once we have broadened

our outlook. It is only desirable that people should speak different tongues, represent different cultures and think independently. If everyone lived, thought and spoke the same way, life would be miserable. From this point of view India needs officers' messes more than England does. Our diversity baffles every foreigner and sometimes, even ourselves ! That is why we need to have messes where officers from different corners of the country will live, drink and eat together. The Act of 1935 tried to put us into water-tight compartments—Punjab for Punjabis, Madras for Madrasis and Bengal for Bengalis ! But the War has thrown us together in a heap; if we return each to his own way of life, we will only put the clock back. Defence is a common cause with a common purpose, and the officers' mess is a vital step towards a common understanding amongst the officers.

A survey of the present day messes will reveal many anomalies and anachronisms. Foreign traditions and customs, and the very short notice given to take over and run them have not given us the time to discover the "golden mean". If any doubts arise about the suitability of officers' messes in terms of Indian conditions, it should be borne in mind that (a) war always upsets the equilibrium of a society and that (b) no amount of wishful thinking can qualify our post-war years as "peacetime". England can do without officers' messes. It is a compact little country. There is always the pub round the corner, and the club for social activities. Theirs is a highly developed form of social life; we have yet to grow our social consciousness.

From the economic point of view just now the Messes *are* expensive. For some peculiar reason a lot of rubbish about the expensive, officerish way of life is often pumped into the young officer's head. But that is all feudal nonsense. The days when one had to buy his commission from the Honourable Colonel have disappeared in history. Officers now are the victims of the New Pay Code, and the junior officer (help him God if he is married) has been hardest hit. Even otherwise Mess life for a sprig leaves him with a debit balance at the end of the month. And then, thinking in terms of "Indian Conditions", almost every other person has to think of a sister at school or brother at college, if not retired parents who could, in these dark days, do with a little help.*

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An average junior officer's pay and allowances if worked out against his personal expenses and commitments will, in ninety per cent cases, show a nil balance. The cost of living index (compared to what the present rates of dearness allowance have been based upon) has gone up by at least twenty per cent. By the time, if at all, the State can be persuaded to take up the matter and introduce new rates, the average officer will be well on the way to bankruptcy, if not in debt. Maintaining "self and family" amounts to an economic struggle; on top of that an officer has been burdened with the illogical task of maintaining a Mess from his barely subsistence-level pay !

The Officers' Mess is neither a hotel nor a boarding house, nor is it a club for the relaxation of the tired official gentry. It is a Military institution and plays a vital role in shaping an officer's attitude to the Service, and it is only reasonable to expect that the State should look upon it as an integral part of its Defence Services—an institution to be maintained and kept as much as any military training centre. In all fairness, all an officer should pay for is what he actually consumes.)

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The Mess is essentially a Junior Officer's Institution. According to the book of words, he is not to marry before he has consumed his youth in the Service. Even if he does, peace-time regulations do not permit him to live out, till he is twenty-five. (The average expectation of life in this country is 27 long years !)

Then, all the coloured booklets containing "advice to young officers" invariably hint at the undesirability of marriage before the poor fellow has undergone the innumerable courses of instruction the Authorities prescribe from time to time. The long and short of it is till such time he is "seasoned" he has to live in the Mess. But the present state of affairs is such that once he gets in, it is doubtful if he will be able to come out of the Mess at all. Very little is left of the "Old Apple Tree" after the Mess (under various heads), the valet, the tailor, the hairstylist, the shoemaker, the hotelwalah, the taxidriver, Insurance Company, Provident fund and the charming ladies who organise charity shows every week have taken their share of 2nd Lieutenant Atkinson's total emolument of Rs. 350/- per mensem. Whether he likes it or not, with the enhanced Railway fares the Mess has to be his Home.

As things are, the purpose of the Officers' Mess has been defeated. And that purpose is what it was in 1740. And yet (it sounds like a paradox !) it is in Indian conditions that officers' messes are most needed. Their suitability can be assessed only in terms of necessity. From the sociological point of view, as I have stressed before, Mess is the only answer to our problem of "diversity". From the economic point of view as well, if the Mess serves its purpose, it will be the officer's home, and will save him from the constant fleecing that he is subjected to outside. The suitability of Officers' Messes in Indian conditions is unquestionable, only if we start them from where they began, way back in 1740—for economy, convenience and companionship.

BURMA DAYS

CAPTAIN P.G. DEVASHER

II "EPILOGUE—BURMA"

ON the 23rd of July 1946 a signal arrived in the office stating that the target date for our move into Epilogue Camp was the same, i.e. 23rd July 1946.

To the discerning mind this conveys a deal of information about the ways of High Command. But 9 E.B., as ever, rose equal to the occasion. "Well, Devash", said the Colonel when I took the signal across to him in the Mess, "I suppose we had better meet and talk it out tomorrow morning. Tell the others, will you?". This was in the forenoon. During the course of the day most of the 'others' came to the conclusion that this was something that had nothing to do with them. Thus only the Quarter Master and I awaited the C.O.'s arrival in the office the next morning. When we thought we had waited long enough we too dispersed, having decided that there was nothing much that we could do about it either except dump the stores and vehicles on some body or bodies, load all the books and manuals in a Jeep and off load them at the C.H.E.'s, and deal with the unwanted papers in the more expeditious manner of burning. A little while later when the Colonel walked in to put his *daskhat* on the odd paper he remarked, "By the way, I saw 'Q' on the way out. He is getting short of equipment; you will do the bumph, and I don't think we have much more to worry about". But one quarter at least thought there was plenty to worry about. From the C.R.E. and the D.C.E. poured a stream of directives and instructions regarding our move. Most of these, on the 'A' side at any rate, were decorated with the dictum 'File' in brown pencil—the colour I used to write my notes in those days—and were hardly ever seen again. I don't know what 'Q' did with his. Certainly about the only thing the Adjutant's office did was to prepare Staff tables of personnel for embarkation (of which, having secured the use of a cyclostyling machine for a couple of hours, we struck off fifty copies while we were about it). And for the numbers involved—nearly a thousand strong—it was one of the smoothest moves I have known.

Well that was 9 Eng Bn. Royal Indian Engineers. We were a typical war-time unit of a war-time formation—No. 4 Engineer Group. Nothing about us, our designation, establishment role and class composition was to be found in the Army List before the War, and GHQ had declared their firm intention of restoring that happy state of affairs at the first possible opportunity. Our very existence was the innocent cause of much disquiet for some of the members of the three original (and hence august) Sapper Groups—the Madras, Bengal and Bombay Sappers—of whose prowess and repertoires some of us betrayed, or professed, ignorance. In particular the fact of our presence on a job (and also perhaps the further fact that we were apparently making a good job of it) gave grave umbrage to a certain unit of the King George V's Own Bengal Sappers and Miners. But then the Bengal Sappers were always upset by people of haphazard genesis such as ourselves. I had had previous experience of this when I was learning watermanship with a class of MARS recruits outside Jhansi. The instructors were all Sikh NCOs of the Bengal Sappers, and grand specimens of manhood and soldierliness they were, too. But never, never by word or thought or deed did they permit the little MARS boys to hope that they could ever approach Roorkee standards. (Roorkee is the Regtl. Centre of the Bengal Sappers. The SME and the Thomason College of Civil Engineering are also there). If anything went wrong there was always Roorkee to fall back upon. "This is not

how it is done at Roorkee ; they have a better way of doing it at Roorkee ; if we apply Roorkee standards here you chaps won't take a day to break ". And as for myself, they categorically declared to the men, " They will take it out of him at Roorkee ". Which they did, a few weeks later.

The year 1946 broke with the Service air buzzing with rumours of an impending change in the fame and name of my own Corps. It appeared that we were about to be accorded the Royal honour of being known as the Corps of Royal Indian Engineers. Now, it was common knowledge (within the Corps) that the older Groups did not view this prospect entirely with favour because it was bound to lower somewhat the value of their own unique distinctions, such as Queen Victoria's Own (Madras), King George V's Own Bengal and the Royal (Bombay) Sappers & Miners. Specially so the last named, as they were not at all keen on sharing their prefix with the hundreds of odds and ends now seeking respectability beneath the IE Regimental colours. And it further transpired that at this juncture both my CO and CRE were Bombay Sappers. Many were the arguments in the mess for and against the expected event. In all these, the author, as the only IE officer present, had to take more than his fair share. I refused to be convinced that things were all right as they were. "The change, if it came about, would certainly be a change for the better. And about time, too. How would I like to be a member of the Royal Bombay Sappers and Miners, Indian Engineers? What was wrong with that? No, I preferred to be in the Bombay Sappers and Miners, Royal Indian Engineers. What was wrong with *that*? (And as far as I was concerned they could keep their own Royal, too). And so it went on. But the event came off. By and by we all got used to it and took the opportunity provided by a Hindu feast-day—Holi—to make a happy event of it, mainly through the mellowing agency of rum. Our Gurkha Subedar Major, an old Infantry man with medal ribbons which ranged from the battle-fields of the last Great War and half forgotten campaigns on the frontier to Kchima and Imphal, ruled that since the Sappers had done plenty of digging and wiring and things in the late War it was all right for us to get something out of it. Good old SM. H was fond of his rum.

On another occasion rum was consumed under very different circumstances. One of our Subedars had died and a condolence meeting was convened by the Senior VCO of the deceased's company to which the Company Commander and I were invited. 16.30 hrs was fixed as the time for the meeting, the rendezvous being the Company Office. On arrival we were greeted by the Subedar Major Sahib and the other VCO and sat down round a table on which reposed a bottle of rum, glasses, a jug of water, and a plate of sweetmeats. In silence the drinks were poured out and solemnly we started drinking. We talked of our departed comrade's record as a soldier, of his service in the Indian Army through nearly a quarter of a century of Peace and War, of his children in a little mountain hamlet in the Kangra Hills. The level of the dark brown liquid in the bottle fell lower and lower and it still makes me hot to have to write about it. But right to the end the solemnity of the occasion remained intact. And the decisions we took at that meeting could hardly have been any better had we been stone-cold sober.

We had, in No. 9, shall I say, a tradition of being able to do without much discipline. At least discipline of the formal kind. That is not to say, of course, that the men were allowed to run out of hand, but the usual fuss that accompanies Regimental occasions such as Orderly Room, C.O's conferences, Durbars etc., was absent. In fact those occasions themselves were conspicuous largely by their absence. I am not saying that that is the best way of running a Unit. Far from it. Certainly the occasional Bn Parade and the odd Colonel's Durbar help to inculcate Bn. feeling and Bn pride. And the ceremony and exactitude of Orderly Room is a great bulwark of discipline and morale. This is true not only of the peace-time Regular Army but also of war-time units and formations. But in our Bn. we had managed

to jog along pretty happily without much of this spit and polish. Though there was never more than one Regular Officer with the Bn. at any time we always had a hard core of good, sound VCOs of the old school who practically ran the place. And what is more, the discipline and morale of our men was upheld by the fact that for the last five years almost literally without a break, they had been swinging picks and shovels and had had no real time to think of anything else. And when the time came for us to pack up and go home we grounded our picks, shouldered our rifles and marched into Epilogue Camp. And that, incidentally, is what I set out to write this chapter on.

“Epilogue” was the name given to the scheme of the gradual fading out of the Indian Army from Burma (excepting those units and formations which were to form part, for the time being, of the permanent Post-War garrison of the country). Our task of Liberation accomplished—and not a little of rehabilitation achieved or begun—we were going home. But what of the land that we had liberated? And what of its people? It shall remain one of my lasting regrets that I saw little of the one and less of the other. For us the Burman was a part of the landscape. Perhaps it was inevitable that that should be so. After all we were a conquering army. There was no social contact between us and our opposite numbers in Burmese Society. As an Indian I am ashamed to have to write so. But that is how it was. Practically all my service was in, or near, Rangoon where Jack Burman was nobody. Up country it might have been different. But even there I would not have succeeded in getting to know anybody even if I had tried. Because my own deep-seated inhibitions make me practically unacceptable to anybody except at work or in the Mess. (In neither of which two places do people generally have much choice in the matter of whom they accept or reject). But all this doesn't mean that I didn't bring away deep and abiding impressions of Burma and the Burmese. For how can one ever forget a people so full of charm, and a country so permeated with personality?

Rangoon is not Burma. I am glad that I was able to get away for a while, if only for a very short while, and drink in some of its indescribable atmosphere. My impressions of Burma are contained in a series of pictures, either actually ‘taken’ by my own eyes or developed by the mind's eyes somewhere in the dark-room of my imagination. In the first place there was my Gold Mohur tree at Monkey Point, with its large blood-red flowers, profuse foliage, and its sad, endearing music. That seemed to me to sum up the glamour, the patience, and the appeal of the East. Then there was that hour in the train down from Mandalay, that sunset hour on the great plain of Central Burma, when the air of expectancy hung so thick over everything: over the bashas, the bushes, and the brown earth. One felt that one stood on the threshold of a New Life, a life in which one would make a new departure and be swayed by new emotions, new conflicts, and new loyalties. In 1942 and ('43) one met many Burma ‘evacuee’ officials in Station Clubs in India, (usually propping up the bar, knocking them back). One and all they declared that India was no patch on Burma, mostly for reasons for which I did not, and do not, care. But there were some who spoke of the charm and fascination that the country and the people exercised—for good or ill—over a certain type of man. I can well understand that now. For now I can imagine the thoughts of the lonely District Officer as he goes into dinner to the boom of the monastery gong, in the twilight, by the Irrawaddy. There will be some, of course, who would damn the ‘awful bloody hole’ and blast the ‘horrible bloody rattle’, but others might think differently. Of that, or of a lonesome evening walk on the forelorn Arakan shore, or of a camp fire in a clearing in the heart of the Northern Jungle. And who can fail to come under the spell of the North Burma Moon with its golden beams and sensuous lure? These parts of the country might be undeveloped, and ‘primitive’, but in them the country and the people have kept their soul.

I have said that my contacts with the Burmese people were practically nil. And so they were. But there was one little dealing I had with one of them which was one of those experiences which build one's faith in a people. At nearly every railway station on the journey up from Rangoon (during the visit to Maymyo) little children, mostly girls, came out to sell us fruit and other things. At one of these I bought a couple of eggs from a little girl about eight, or nine years old. Snub nosed and clear skinned she wore brightly coloured clothes and had her eggs in a little sash by her side. It was raining and she carried a tiny gold and green paper umbrella, though how it protected her from the rain was hard to see. But what was easy to see was that she was not going to haggle over the price. Two annas an egg ; no less. Take it or leave it. A perfect little lady, for all her wet clothes, bare feet and streaming hair. And that brings out another point, perhaps not so brilliant. It seemed that all the work, or the best part of it anyway, was done by ladies, little and not so little. I think I can state truthfully that with the exception of a few coolies working on roads (thrown into gangs consisting largely of women) I seldom observed a man carrying a load. Even in the fields the men seemed to be letting the women get along with it. There was one field of activity, however, in which the men held unquestioned supremacy. And that was driving buses. By the time I got back to Rangoon in November 1945, a number of civilian 'Transport Companies' were in evidence on the public highways in the shape of a fair number of buses plying for hire, most of them of a startling appearance and origin. It appeared that the gentlemen running these companies had got hold of every automobile engine on four wheels visible (or invisible) in the vicinity and had put a chassis on it, seldom proportionate to the size of the engine or its capacity. The result was a wide variety of buses depending upon engines ranging from pre-war Baby Austins to Ford V8s for their motive power. The determination and mechanical skill of the men who kept these vehicles on the road—always loaded to capacity—was truly remarkable. For they seldom covered distance otherwise than in a splendour of steam and smoke and sound. Once I saw one of these buses, travelling at a fair speed, with its bonnet lifted on both sides, and an individual sitting on one of the mudguards pouring water into the radiator ! Perhaps that was the only way it could be kept going. Often the driver and his mate between them combined the functions of principal, factor and agent of the particular transport company that their bus claimed to belong to.

To return to the Bn. There was one matter that came up before we left Burma without recording which I cannot regard this chapter as complete. For it throws light on a number of subjects. What happened was as follows. It transpired that shortly after our arrival in Rangoon in 1945, a certain number of destitute Indian children formed the habit of frequenting our cookhouses at meal times and hanging about the lines generally ; obviously because they had nowhere to go to. It was difficult to send them away and nobody minded their partaking of the food that was left over, or sleeping in a disused corner if they felt like it. As time went on and parents and friends started coming out of their hiding places these kids drifted away. All but three boys, between seven and twelve years of age, who stuck to us. When we moved to Mingaladon they came with us and, in due course, became fully recognised 'Bn Bachas'. By this time they had also gravitated to certain specific individuals who regarded them as their adopted sons. And when the time came for us to go nobody thought of leaving them behind, or that there would be any difficulty in taking them with us. But that is just where we were mistaken. For when, during a visit to the Embarkation Office the Colonel casually mentioned them the Staff Officer we had been interviewing very nearly collapsed in his chair. The audacity of it ! But as he was only a Major all he did to outward appearance was to refer us to 'A' Branch of South Burma Area. Without their permission he said, the embarkation of these boys would be quite impossible. At Area we were told that we would first have to obtain permission from the Rehabilitation and Welfare Department of the Government of Burma. Personally, the tall and stately 'A' expert pro-

nounced, he could hold out no hope. There had been too much of that going on for one thing, and in any case, we should probably sail away before the papers came through. Coming out the C.O. said he left the case entirely in my hands. Dropping him in the Mess, I proceeded to the Rehabilitation and Welfare Office in Merchant Street where, after a good deal of telephoning and 'having words' with colleagues, a very pleasant young civilian informed me that I should have to produce legal Affidavits of Adoption before he could take any steps in the matter. The next day found us—me, the 'fathers', the children, and one or two others—at the Criminal Courts determined to get those affidavits, whatever they might mean or cost. The District Magistrate was busy, hearing cases, but looking around I saw a gentleman in a large office, obviously an officer, whose door bore the legend 'Registrar'. The very man I wanted to see. I went up to him, saluted, and asked him if I could have a few words with him. As far as I could see he was doing exactly nothing. But he seemed extremely surprised at the fact that I should want to see him. "You want to see me?", he asked half rising from his chair. Having received an assurance that such was the case (and after a moment of indecision) he completed the process of rising from his chair and turned in the direction of an inner room which turned out to be his private chamber. I followed him and without a word we seated ourselves. On my explaining my business he asked me if I and all the people concerned in the case were Indians. Receiving a reply in the affirmative he called his orderly and gave him an order. As this was in Burmese I could not understand the same, but a few minutes later a certain gentleman materialised who, I was told by the Registrar, would help me in getting the affidavits typed on the proper paper and getting them attested. Thanking him I walked out of the room in company of this individual who described himself as an Indian and a friend of Indians. Once in the verandah he overwhelmed me with assurances of what he had set before himself as his mission in life, which was helping Indians, of all ranks and classes, absolutely free of charge, and in every possible way that lay in his power. Walking down the building we came upon a row of gentlemen sitting in the verandah, before typewriters. (Typewriters to the wall, and their backs to the sunlight). *Licensed* Petition Writers, I was informed by my compatriot. But it was only the best one we were going to; nothing but the best for me. Having sorted out the best of the lot he proceeded to instruct him regarding what was required of him and in a remarkably short time I had the satisfaction of seeing his typewriter ticking away at top speed. While waiting for the compositions to be completed we were treated to the sight of a gang of Burmese dacoits being led away to the Lock Up by the Police. They certainly were as tough looking a crowd of desperadoes as any one could hope to clap eyes upon. Actually the Police were having quite a job keeping them together. Petition writing over, we interviewed a Magistrate who signed the documents without reading them through. Back in the verandah my altruistic and generous hearted friend renewed his protestations of readiness to help Indians, of whatever status or religious persuasion. His counsel and assistance were always available to them, absolutely free of charge. As a matter of fact that was what he was doing day in and day out. I paid the Petition Writer his reckoning, asked the other if I could pay him anything for his services. "Nothing doing", he cried, "I help my countrymen without any thought of monetary reward crossing my head". Shaking hands with him I sought my jeep and returned to the camp, leaving the men to follow in their truck. Later on I learnt that a further ten rupees changed hands before the truck left the compound of the Rangoon Criminal Courts.

Having seen the legal papers the Director of Rehabilitation and Welfare raised no more objections and gave me a letter authorising the 'export' of the three kids. Feeling very satisfied with myself I drove over to the Embarkation Office and showed the papers to the Major who had been so upset by the affair in the first place. There was hardly anything he could do about it, but it was clear that he took an extremely dim view of the whole thing. Grimly he took up the telephone and held a brief conversation with somebody at the other end of the wire. The instrument came down

with decision. "Yes", he said, "now, will you take the whole case to Major 'So and So' in H.Q. Burma Command. He will pass final orders. Can't have you fellows fixing these things up on the quiet and then springing them upon us at the last minute." To Burma Command, then. (The next day, that is. It was late in the afternoon when I left Embarkation, and I went straight home for a cup of tea. That evening I could have put those boys on pack drill for the rest of their lives if I had seen them). Well, Major 'so and so' who was a 'Q' Major wanted me to take the whole sub-chiz to Major 'such and such' who was an 'A' Major and who would look into the legal aspect of the case. Finding my way to 'A' Branch I discovered that Major 'such and such' was away at a conference but his Staff Captain was in. He was not at all happy about the case; it had not been put up to them through the usual channels, there had been too much of that going on; in short he could not take upon himself the responsibility of giving an opinion. I should have to wait till the Major returned from the conference; who, when he did return from the conference, said that everything was perfectly in order, in the eyes of the Law the kids were the children of the men who had adopted them, and further, as such they were entitled to free passage to India. (All this to Major 'so and so', on the phone). At last it was done. In the words of Mrs. Tulliver, by the time we moved down the Rangoon River, I had had enough of 'Lawing' to last me a long time. But when we foregathered in the Colonel's cabin that night—just to put down 'one for the table'—and he asked me, "those kids on board, Devash?", I was able to say "Yes, Sir".

Bullet-proof Armour

New U.S. Army clothing developments, as exhibited before the Textile Square Club in New York, included a plastic armour that can stop a .45 bullet.—*Infantry Journal*.

GOOD GUNNERS SELDOM DIE

G. FENTON-BAILLIE

SHINGARA SINGH left his house early one morning. He had heard that the recruiting officer had come to the village. Rattan Singh, his father, had served in the army, and so had his grandfather Gurnam, the white bearded gentleman sitting drinking his early morning 'lassi' and indulging in his favourite pastime of coughing. Grandfather Gurnam was a great cougher. He could no more do without it than he could do without his regular flutter with the village belles. Grandpa Gurnam was popular with the girls, for was he not considered the bravest of all soldiers in Ludhiana—a land where valor is the common heritage of every man? "None but the brave deserve the fair", quoted Grandpa often, as he playfully pinched a blushing cheek. The elder girls always faced Grandpa Gurnam when he spoke to them. Experience had taught them—Grandpa was an incorrigible pincher. So what with telling tales, coughing, pinching and infusing his grandsons with martial spirit, Grandpa's retirement was a good one. He had earned it.

Shingara Singh greeted his grandfather warmly. "Bapuji", he said, "I heard at the circus last night that the recruiting officer will be in the Post Office to-morrow".

"That is good", replied the old man, "I'd like you to see him, but have you asked for your father's consent?"

"Bapu will have no objection if you say I should", said Shingara.

The old man grumbled. "I don't know my son", he said. "I really don't know. Your father seems to have forgotten his own army career and has his heart set on your going to college. I think your mother wants you to be a booking-clerk". He spat contemptuously. "I do not know what is wrong with our Sikh women these days. Gone are the times when they could see no further than a soldier's uniform. Now they want their men to go to college, and to buy fine clothes. They will be wanting us to put scent on our turbans next." The old man's voice died down into a murmur of dissatisfaction.

Shingara Singh smiled indulgently at his grandparent. "I must be off now", he said, "and when I pass the test I shall talk to father."

"That's the way, son", said Grandpa; "you are a lad after my own heart. Act first and speak after, though I wager your mother will have something to say when she hears what we are up to. Never heard such a woman for talking as your mother Gurnej Kaur. I knew her when she was a little girl. She talked a lot then and she hasn't stopped talking yet. I always said Gurnej had the tongue to tame any man. Poor Rattan!" The old man winked with a wicked gleam in his eye. "Go on boy—get along", he said. "Take the sword and leave the girls to Grandfather."

"You may have them all Babaji, if you'll leave Lakhbir Kaur for me", said Shingara as he walked off to meet the recruiting officer.

* * * * *

Just about the time our Sikh, 'jawan' was enlisted into the army, a young educated Muslim of Lahore had made up his mind to be a soldier. He did not have to persuade his parents to let him go. They seemed almost eager to get rid of him. He was a wayward boy who spent most of his time quarrelling in the Lal Kurti Bazaar and making the family food supply decrease in an alarming fashion. His father Akhbar Ali never tired of upbraiding him for his lack of interest in the fields and gibing at him for his enormous appetite. "Sirdar Khan, you good-for-nothing badmash, son of a luckless father", he complained to him one evening, "how many more chapatties are you going to consume? You've devoured enough to kill any two normal persons already."

Sirdar Khan was not ruffled. "No more tonight, father", he replied quietly; "and perhaps no more on other nights either—in this house."

"How so?", asked his father, "what dark mystery is this? Listen to this Mumtaz", he called out to his wife; "our son is going on a fast. He is giving up chapatti eating from today."

"What did you say?", questioned Mumtaz, as she came out of an inner room with a dish in her hand. "Sirdar is not going to eat any more?"

"Yes, he is commencing a fast from to-night", said Akhbar Ali; his red beard trembled with mirth, and his round stomach heaved convulsively, but no sound of mirth came from his mouth. Akhbar always laughed in this way at his own jokes.

"Perhaps Sirdar is going on a fast to persuade the University to give him a degree", taunted mother, touching on a sore point. Sirdar had failed his B. A.

"No, there will be no fasting for me", replied Sirdar, "for I have joined the army."

The aged couple looked at their son in stunned disbelief. A son's a son and a parent's heart can overlook many faults.

The old man was the first to break the silence. "That's good", he commented gruffly, though the choke in his voice belied his plain words.

"Good indeed", echoed Mumtaz, "I won't have to deprive the younger children to feed you any longer."

"True mother", said Sirdar, "it is an advantage for you, but is there no thought for me?" The old lady went away to hide the tears in her eyes, though she was glad that one problem had been removed from her increasing domestic and economic worries.

* * * * *

Early in the year 1937 an Artillery Regiment was being trained somewhere in India. The officers were largely British, and the men, Indians of many castes and creeds. There were Sikhs, Punjabi Muslims, Rajputs and Mahrattas, as fine a body of soldiers as one could find in the world, drawn from fighting races with traditions of centuries behind them. The 'jawans' were keen, energetic and determined to be good artillery men, and if there was one person in the world to help them to do this it was their C. O. 'Daddy' Forsythe. He not only understood them and loved them, but he had the conviction that they had the makings of the world's best gunners, could they be made to compete as separate 'classes' in their training on the guns, and combined as one efficient body against a common

enemy. 'Daddy' Forsythe, accordingly, set his plans into operation. It was to keep a constant gunnery competition going during the period of training. The jawans were to be separated into various detachments, Muslim, Sikh, Mahratta and Rajput, each under the command of a Havildar.

"When we finish with them", 'Daddy' declared, "our worst gunners will be able to drop a shell on a beer bottle at 10,000 yard range."

Strange to say, both Shingara Singh and Sirdar Khan were drafted on the same day into what had come to be known as 'Daddy Forsythe's pea-shooters', and sent out to Hongkong. Here Colonel Forsythe started them on a rigorous training:

Shingara Singh by intelligence and hard work soon rose to the rank of Havildar, and took charge of a Sikh gun detachment, and some time later Sirdar Khan was also given the rank of Havildar in command of a Muslim gun.

Life in Hongkong was never dull for our 'jawans'. Sirdar Khan had many ways of spending his leisure hours along with his cronies Suraj Din and Sher Khan. They got to know some Chinese girls and even a Japanese maiden. The ladies found the Punjabi Muslims irresistible, so Sirdar Khan and his friends had plenty of amusement. Life was colourful; life was glorious in Hongkong. Sirdar's occasional letters home were vivid with descriptions of the vibrating spirit of the place—Hongkong! the city of enchantment. Sirdar was enraptured. He felt that he was living to the full capacity of his being.

With the Japanese girl in particular, a laundress, named Nitche, Sirdar became friendly. She was kind to him and many of his evenings were spent in her company. She was fascinated by the strange contrariety in the character of this dare-devil Achilles who lived so intensely and loved so boyishly. The girl had never seen his like before, but what she admired most in him was his unfailing courtesy. In Japan a woman does not get much consideration from her men-folk. Fully dressed of an evening with the 'tura' of his turban flying majestically in the breeze, he would make his way to her little home. He was handsome and he knew it.

Sirdar Khan's enormous appetite was a source of much amusement to Nitche and sometimes she would rate him roundly for finishing half the contents of her larder. Sirdar Khan would then hang his head and look so crestfallen that she would soon forgive him and laugh at his discomfiture.

"Why do you wear that roll of cloth on your back like a bedding?", asked Sirdar one day as they sat together.

"It is to remind me of the day of my death", Nitche replied gravely.

Sirdar was puzzled. "How's that?", he asked.

"This is my shroud", Nitche explained to the soldier. "Its presence on my back helps me to live as if every day was my last."

"Not a very agreeable philosophy", growled the man.

"It is comforting to me", replied Nitche. "You see in reality I carry my coffin on my back."

"How very depressing!", exclaimed Sirdar Khan. "And does that you to lead a good life?"

"It does", admitted the girl.

Sirdar laughed heartily. "It would have the opposite effect on me I am sure", he said, "thus being constantly reminded of the inevitable end; I would be ever ready to reach out and grasp what life has to offer while there was yet time." And with this piece of Epicurean philosophy he took the girl in his arms.

* * * * *

Tent lights agleam in purple mists; wintery breath of the morning air; fret of activity near the gun park; lines of trucks standing cold and dark along red gravelled roads; a laugh; a cough; the clang of early morning tea mugs; gunners preparing for the great day—it was the morning of the inter-detachment competition. In his tent sat Sirdar Khan ready for the contest. He was a worried man.

"That Sikh detachment certainly worked their gun with devilish swiftness and accuracy on our last exercise, Sher Khan", he said. "I feel afraid. They may beat us in today's competition."

"No small wonder when our Havildar spends his time with a Japanese houri and her opium-smoking relatives", replied his friend, who was not a little peeved at Sirdar Khan's recent neglect of him.

"She has nothing to do with it, and you know it", retorted Sirdar. "The plain fact is that the Sikh lot are faster than we are, in spite of all our practice."

Sirdar Khan was no slack soldier. "If our Muslim detachment is going to keep its honour today, we must be quick. It is more speed we want—more speed. We must all be as alert as monkeys in a gramfield, and don't you forget it", he said.

"Of course, we must admit that Shingara Singh, the Sikh detachment Havildar, is a very good gunner", giped Sher Khan, deliberately rubbing salt into a sore wound. "Also he writes home to his girl once a month only. Most of his other time he utilises in brushing up his gunnery."

Sirdar Khan was now thoroughly roused. He glared at Sher Khan. "You hound from Hell!", he bellowed. "I can take Shingara Singh on at anything, and as for gunnery, I'll show him what that means today."

"We all certainly hope you do", said Suraj Din, amid murmurs of approval from others of the crew.

"We've got to do it", ejaculated one....

"Sharam-ki-bat."

"Matter of honour."

"I won't be able to eat for a week."

Angry voices yelled from every direction. Sirdar Khan looked at the faces of his men. He was considerably relieved. Men like these would never fail him.

* * * * *

Firing had ceased. Section officers were doing their rounds of the guns. The mid-day air was warm and oppressive. Sirdar Khan swallowed hard to get the fullness out of his ears. He eyed his men standing back from their gun. They all knew they had done well—but had they beaten the Sikh gunners? They waited.

Their Subadhar Murad Khan was on his way to inspect the Sikh gun, and here was that old veteran, Subadhar Makhan Singh, coming to look at theirs.

In a short while the result would be known.

Sirdar Khan was breathless with excitement. What had Murad Khan to say to the G.P.O. about the Sikh gun? Standing close by, he strained forward to catch the words. "Wrong angle on dial-sight", reported Subadhar Murad Khan to the G.P.O.

Sirdar Khan could scarcely believe his ears. With a throb of exultation he realised that their chance to win had come.

Shingara Singh was sent for. "What is this Shingara Singh?", said the officer. "Subadhar Murad Khan reports that the angle set on your dial-sight is wrong."

Shingara Singh's bearded face showed no emotion. Abruptly he said, "Cut off my hands now if I have laid the guns wrongly. After 3 years' working on a mountain gun is it possible that I could not manage a mere 25-pounder, which any one of our girls from Amritsar could easily fire? Let the Subadhar Sahib make sure that I have made an error."

The G.P.O. cut him short. "We will do that together", he said. Murad Khan had made a mistake. There was no error in the laying. Fifteen minutes later the result was announced. Havildar Shingara Singh's crew had won the competition.

That night Sirdar Khan went down town and had a fight with several Japanese sailors. He felt much better for it.....

* * * * *

It was in the winter of 1941 that the blow fell. The Japanese had surrounded Hongkong. The garrison of that town gave a good account of itself. The Japs had never imagined such accurate shelling was possible. But good shooting and stout hearts cannot hold a position for ever against impossible odds.

What happened to the brave defenders of that city is now known to every one.

* * *

The buoyancy of spring was in the air. Harnessed men like beasts of burden awaited the loading of a timber wagon. The jawans were prepared for the day's toil: lean, bearded Sikhs, fierce-eyed Punjabis, Mahrattas and Rajputs, brave men all in the face of death, by gun or by sword. But what was this? To what vale of misfortune had they now been brought? Mere ghosts of their former selves after three years of prison life! Was an inexplicable and uselessly cruel caprice of fate to deprive them for ever of the right to live decently without fear and shame?

The sons of India had suffered. Among the foremost in the group stood a young Sikh. His eyes were wistful and sad. A thousand evanescent memories of happy days filled his mind. Shingara Singh had thought much of his home lately, of his mother and of Lakhbir Kaur. He wondered if Grandfather Gurnam was now dead. He had not heard from his people for a year. Behind him lolled a gaunt giant of a man. It was Sirdar Khan, weak and thin but as vital as life itself. "I wonder where these swine will take us to-morrow," he hissed.

"To the tunnels I hear. We are to dig tunnels for them this time like any gang of convict coolies", Shingara answered him.

Sirdar Khan's eyes flashed balefully. "May their souls rot in hell."

"By the way Sirdar Khan", said Shingara, "it was very good of you to do all that extra loading for me yesterday while I was shivering with the ague. You certainly saved me a spell of sick detention and you know what that means to one of us. Thank you very much."

"How are you feeling today?", asked Sirdar Khan.

"As weak and doddering as an old woman", replied the Sikh. "This *thundi bukhar* has got me badly."

"I had some pills that would cure you", said Sirdar Khan, "but that yellow-bellied dog of a guard stole them along with some other belongings of mine the other day. Anyhow try to endure it or the black-hearted sons of pigs will stick you in hospital, and you'll be put on half rations."

"I'll go on until I drop", said Shingara. "Anything rather than have my rations cut. Just imagine four ounces of rice for a sick man. My little sister would eat that with raisins and milk and call it a pudding."

"Don't talk of milk to me", moaned Sirdar. "It makes me think too much of our Indian sweets." The Muslim's voice rose to a roar of anguish. "I can't stand thinking of food any longer", he cried. "All day long I think of it, and I dream of it all night. It's always food, food, food—Allah strike me dead!"

"And what about women?", suggested Shamsher Singh from behind. "Have you left them out of your thoughts entirely?"

"Not altogether, I can assure you Shamsher", declared Sirdar Khan, rapidly regaining his usual good humour, "but I only think of them in terms of food. The fatter I picture them, the better I like them now."

* * * * *

Days wore on in dreary succession. Four Sikh jawans tried to escape overland to Chung-king but were captured and brought back to be shot in front of the prisoners. Arrogant and overbearing, the Japanese masters poured out a daily avalanche of vituperation. Towards the end of 1914 the jawans were put to work on the construction of roads. The work was hard and the conditions had become worse than before.

Sirdar Khan's complacent pessimism had given way to a state of hopeless despondency. He had become moody and intractable. Very soon he was up before the new guard commander, Segu Osaka, a gentleman with a more than

ordinary share of baseness and depravity. True, Sirdar's offence was a trivial one, but Osaka felt he had to live up to his reputation; so he sentenced the Muslim to three days' solitary confinement. This was a tragedy, as it meant that Sirdar's rice ration would be stopped.

In the circumstances the Muslim soldier would have preferred death, particularly as there was always the possibility that he would be left to die of starvation in his cell. Sirdar had heard grim stories of how this had happened to others. He prayed that Segu Osaka would not leave the camp before he sanctioned his release.

The Muslim soldier had been in his black world of frightfulness for four days. The poignant doubt in his mind became a fearful conviction. He was sure that he was to be left in the cell. The gallant Muslim had faced death a dozen times, but this was a doom too awful to contemplate. An intense and insatiable hunger for light made him scream and rave. Later the guard, who daily filled his dish with water, gave the hapless man the horrifying news—Osaka had been called away. There were no orders for his release. The Muslim soldier's first impulse was to spring on the guard and kill him; instead he turned towards his dark corner and lay down to die.

That night, after the camp noise had died down, Sirdar thought he heard a sound outside the small air vent of his cell. Was his tortured mind playing him tricks, or had some fiend from hell come to taunt him?

"Who's there?", he called weakly, not much caring.

"Sirdar Khan—Sirdar Khan! Can you hear me?" The voice was scarcely a whisper. "Listen, Bahadur. Listen to my words. Look carefully at your window." Sirdar Khan stared at the faint orb of light. What could possibly happen there?—he thought. He stared at it so hard that it seemed to recede into the darkness and burn like some remote sphere in a void of space. Suddenly, for a fleeting second the light was obscured. Something had fallen on the floor of his cell with a dull sound and rolled softly towards his foot.

Sirdar reached out and caught the mysterious packet to him. Before he could tear the paper away he knew what it contained.

"Manna from heaven", cried Sirdar.

It was a large ball of cooked rice. Sirdar Khan lay down in his damp cell and wept.

And so it was that on every evening for three weeks, the Muslim stared at his window, knowing that there was someone in the world who still cared whether he lived or died. Sirdar did not starve.

On the morning of the great day, our jawan was awakened by a loud cheering in the camp, and before he could clear his mind of sleep, in came Suka, the water-giver, all smiles and looking the very soul of generosity.

"You may go out now", said the guard. "The war is over."

That evening Sirdar met a very gaunt Sikh youth.

"You are the best shot in the world, brother Shingara", said the Muslim soldier as he embraced his saviour. "Never a night did you set the angle on the dial-sight wrongly. Straight into my lap it came, sometimes on my head."

Shingara smiled happily. "Who told you?", he enquired.

"No one", replied Sirdar. "I just knew. Now I am sure. Look at your state!"

"Nothing much to complain about", said Shingara. "I never did like rice anyway."

Together, the two staggered off to the kitchen for hot soup.

Can Fires be Prevented?

Details of recent progress in Britain have been published as a Report of the first year's work of the Fire Research Board. This is a permanent department set up to continue in peacetime the study of fire-fighting methods, which was made necessary by heavy incendiary attacks during World War II. The Laboratory's staff of specialists, collaborating with experts in universities and other centres of research, has much of interest to report.

The fireman's helmet changed so little in the years before the war that it seemed as if there was little room for improvement. The testing experiences of war, however, showed this was far from true and have led to the production of a greatly improved helmet—made mainly of woven glass fabric—which is now being tested by brigades in action. Although it weighs only two lb., it will resist blows of 14-lb. pieces of stone falling from heights up to a dozen feet.

Even strong blows with the edge of a quarter-inch steel plate make no impression on it. Protection against electric shock—an increasing danger—is also given. Even when soaked with water from fire hoses the new helmets will resist 10,000 volts.

Another field of research is the study of spontaneous combustion. For reasons which are still obscure certain products, such as coal, oilseeds, hay and cotton waste, are liable to burst into flames quite spontaneously when they are stored in bulk. Although no certain theory of spontaneous combustion has been established, research on the practical side has led to the development of new methods of storage which greatly reduce the risk.

There is also a statistical section for classifying the various causes of fire—in Britain unswept chimneys, children playing with matches and careless smokers are the three most common causes. All these results are steadily being translated into practice so that not only are fire-fighting methods being improved, but the causes of fires are being removed.

REVIEWS

CRUSADE IN EUROPE

GENERAL DWIGHT D. EISENHOWER

With Illustrations & Maps, Heinemann, 25/-.

Every major war must have as its aftermath a deluge of war books. Generals, statesmen and even private soldiers feel the urge to figure as authors of memoirs, reflections and recollections. They live over again the hectic days of the mortal struggle. This must be a blessing indeed for the veteran soldier, when war has ended and peace returns.

General Eisenhower, however, needs no such apology for his "Crusade in Europe". As the Supreme Commander of the greatest war-machine ever assembled on this globe, Eisenhower is an acknowledged authority on modern warfare. War is a serious and complicated business. National survival may depend on a correct understanding of the principles of war, and the lessons of a war are revealed only in the retrospect. Eisenhower, moreover, came to know most of the important national and military leaders of Europe and shrewdly judged their characters and capabilities. Much may hang in the future on a correct interpretation of these characters.

In this account of the war against Germany, the story begins with the gradual American rearmament from 1939, and ends up with the problems of Allied occupation of Germany in 1945. The entire panorama of the European war unfolds itself, gradually, clearly and coherently. Problems of grand strategy, of planning and logistics, are all dealt with in a lucid, non-technical and logical manner.

In the field of grand strategy, the agreement to concentrate all resources against Germany first was perhaps the most momentous decision of the war for the Allies. If the Second Front had been postponed for just another year, who can say what Hitler would have done with his terrible new weapons? It would have been tempting to throw everything against Nippon to check his conquering hordes. But Russia and Britain were already fighting Germany with their backs to the wall, and could never have detached forces to fight Japan without the danger of being overwhelmed. In reality, there was no choice in the matter.

To open the Second Front in Normandy was another momentous decision. Even Churchill considered the operation unduly risky, and continued to press throughout for an attack through "Europe's soft underbelly". Eisenhower, supported by General Marshall, insisted as persistently in considering "Overlord" the only feasible course for a quick German defeat. He calculated that every ounce of Allied strength could be put into the punch only if launched from England, and that the "soft underbelly" would prove very tough going due to the mountainous hinterland. He was proved right.

The book relates that the invasions of North West Africa and Italy were always subsidiary operations. They proved invaluable in giving the American troops their baptism of fire and in giving the staff officers an experience of large scale amphibious operations. The military objectives were no doubt of considerable importance and were brilliantly achieved. But the ostensible political objective was equally important, viz., to free the inhabitants of French Morocco and Tunisia from hated

Vichy rule. The Allies took it for granted that the populace and the French officers would welcome the Free French. They were surprised to discover that the French officers considered De Gaulle a deserter and would obey only Darlan. Incidentally, the units of the French fleet were attacked to prevent Vichy handing them over to Germany, and Darlan was discounted when he declared that his officers would never surrender their ships to the Germans. Events showed that the French warships were quite safe from the Germans and that the French in Morocco wanted no deliverer, but the Allies had in the meanwhile gained a lot by their timely action.

The aspects of strategy and logistics are equally interesting whenever touched upon. Eisenhower indicates that the supply and maintenance of the Allied forces during their dash to the Rhine was one of the best achievements of the war. After the war, senior Russian officers always asked him how he had managed that! The book reveals that Von Rundstedt's Ardennes counter-offensive really never had a chance. The sector attacked was thinly held, while strong formations were already concentrated on the flanks. The desperate counter-offensive would not have gained even the success it did if the Allied air forces had not been grounded by bad weather just then.

Air Power was thoroughly understood by the Supreme Commander. In his mind, there was neither the inter-services jealousy deriding the new weapon nor the uncritical over-enthusiasm that considered Air Power the panacea. He knew the potentialities as well as the limitations of the new weapon and used it with judgement and skill. The incident when he ignored the expert advice of Air Chief Marshal Leigh-Mallory against the airborne operation in Normandy will always be of intense interest.

But the book is not merely an account of the war. Some of the most fascinating portions deal, not with events, but with personalities. President Roosevelt, Mr. Churchill, Marshal Stalin and General De Gaulle are all there, apart from military luminaries like Marshal Zhukov, General Marshall and Field-Marshal Montgomery. They are mentioned in a casual manner, but the random remarks are shrewd and penetrating. The observations are usually generous and charitable, except where it is necessary to avoid inaccuracy. Blame too is occasionally given, but with an objectivity and moderation that can produce no rancour. Generally, there is respect for President Roosevelt and General Marshall, friendliness for Marshal Zhukov and Admiral Cunningham, affection for General Paton and Sergeant McKeogh, and dislike for the landlady who wouldn't let him in! The author's feelings for Stalin, Churchill and Montgomery are less clearly defined but the observations on them appear scrupulously just, and the words carefully chosen.

The book throws a very favourable light on the personality of the author himself. As a capable general, Eisenhower needs no certificate from any one. But there are some successful generals about whom one can only say "Nothing succeeds like success", while there are others about whom one feels that they were bound to succeed. His book shows Eisenhower definitely of the latter type. Stern decision and sweet reasonableness, imagination and solid horse-sense, tact and sincerity—they appear to have been mixed up in just the right amounts to produce a truly remarkable man. His phenomenal success does not dry up the springs of simple human emotions, and he remains an affectionate father, a loving husband and a sincere friend. It is easy enough to understand the deep faith, loyalty and devotion the man inspired among his staff and men.

The intricate and momentous problems of Allied co-operation and command were encountered and overcome in the last war, and Eisenhower is a sure guide to them. The chapter on "Planning Overlord" would be found particularly rich in suggestions for successful Allied and Inter-Service co-operation. As explained in

the very first chapter, "Primarily the Allied task was to utilise the resources of two great nations with the decisiveness of single authority", and "There was no precedent to follow, no chart by which to steer." The discomfiture of Hitler showed how well the task was achieved, and Eisenhower bears witness that the art of managing Allied forces under a single command had been fully learnt. Still, the book affords numerous examples to show how easily misunderstandings and irritation could arise, even near the end of the war. Perfection can perhaps never be attained in the art.

General Eisenhower's remarks on the handling of war correspondents are characteristically simple. His recipe is to treat them as quasi-staff officers and to trust their discretion in not reporting undesirable news. His experience was usually happy, but it is easy to imagine circumstances where copying him might prove very embarrassing.

Scattered about will be found his remarks on aspects of warfare which may well be quoted by future writers on tactics and strategy. The following is a fair sample. "Speed makes possible the full exploitation of every favourable opportunity and prevents the enemy from readjusting his forces to meet successive attacks. Thus through speed and determination each successive advantage is more easily and economically gained than the previous one. Continuation of the process finally results in demoralisation of the enemy. Thereupon speed must be redoubled—relentless and speedy pursuit is the most profitable action in war." Such observations are mostly in parenthesis, but the last two chapters discuss the main lessons of the war and the problems of the post-war peace.

The reader will instinctively compare "Crusade in Europe" with Montgomery's "Normandy to the Baltic" or "El Alamein to the River Sangro." Both are admirably lucid, and both provide a complete, fully-intelligible picture of the development of the war. Montgomery, however, lacks the scope and power revealed by Eisenhower. "Normandy to the Baltic" is essentially a cold, dispassionate post-mortem report on the Second Front operations; it has little of the breadth of vision, catholicity of interests or range of human emotions found in "Crusade in Europe".

The book contains numerous illustrations, diagrams and maps. There is a good index, a glossary of military code names and three appendices. Footnotes are collected at the end. Unfortunately a few misprints have crept in.

"Crusade in Europe" will undoubtedly find an important place in every library. Apart from its historical interest, the book will long remain a favourite due to its human appeal and readability.

S. N.

THE MADRAS SOLDIER

1746-1946

LIEUT.-COLONEL E.G. PHYTHIAN-ADAMS, O.B.E.

Government Press, Madras, Rs. 4-2.

The Madras Army of the East India Company was the first element of the Indian Army ever to be raised under the British crown. In 1744, England went to war with France, and Madras was captured by the French forces in India in 1746. The Governor of Fort St. David at Cuddalore (Madras Province) then began to raise troops; and they were the earliest units of the Indian Army of today.

Colonel Pythian-Adams is a veteran who has had a long association with the Southern soldier in general and the Madras Infantry in particular, and he is, no doubt, the best historian available to record the annals of the Madras soldier.

The book gives very valuable information on the origin and progress of the Madras Army, its war service, historic actions in which it took part, and the honours and awards won by its soldiers in its various campaigns.

It is a story which goes back nearly 200 years. Starting from a nucleus of local levies, such as those led by Clive, fifty-two infantry regiments and one rifle regiment of Madras Infantry were raised between 1758 and 1826. They served in the wars against the French in the Carnatic, and in all the four Mysore Wars which marked successive stages in the long forty years' struggle against Haider Ali and his son Tippu Sultan of Mysore. In the second of these wars they were commanded by Sir Eyre Coote; in the fourth, in which Colonel Wellesley (afterwards Duke of Wellington) was one of the subordinate commanders, they took part in the storming of Seringapatam in 1799. General Wellesley (as he had then become) chose them for service in the First Mahratta War in which they played a great part at the Battle of Assaye in 1803. They saw jungle fighting, now of such topical interest, in the First and Second Burmese Wars, stood firm and did much to turn the tide in the dark days of the Bengal Mutiny of 1857, and went to Burma again for the Third Burmese War. In the First World War their depleted ranks were reinforced by eight temporary battalions, and they saw service in Mesopotamia and East Africa and on the frontier. In the Second World War, large forces of Madras Infantry were raised. Indeed, at the present time the Madras Presidency holds the proud distinction of contributing more recruits to the armed forces than any other Province or State in India.

Colonel Pythian-Adams has a very interesting, vigorous style, and he writes in a spirit of affection and admiration for the Madras soldiers which, of course, is the result of his long association with them.

Colonel Pythian-Adam's advice to officers commanding Madrassi troops deserves to be reproduced here: "The officer who is constantly nagging at his men will have even less success with Madrassis than with any other class of soldiers. On the other hand, one of sympathetic temperament who shows not only by words but by deeds that he is really interested in his men and that he will not permit any disparaging remarks to be made about them will certainly win their affection and regard"..... "Madrassis, while on the one hand alive to injury and prone to resent ill-treatment, whether fancied or real, are, when kindly used, the most faithful and attached of all soldiers."

Field-Marshal Sir Claude J.E. Auchinleck writes a foreword to the second edition published in 1948, while the first edition published in 1943 carries a foreword by Sir Arthur Hope, then Governor of Madras.

The book has been published in the three South Indian languages of Tamil, Telegu and Malayalam as well.

A.M.M.

THE SIKH REGIMENT

1st King George's Own Battalion

1846-1946

LIEUT-COLONEL P.G. BAMFORD, D.S.O.

With Maps & Illustrations. Gale and Polden

This is the history of the First Battalion of the Sikh Regiment during the hundred years, 1846 to 1946, written by Lieut-Colonel P.G. Bamford, D.S.O., who commanded the Battalion from December 1945 to December 1946.

At the close of the First Sikh War, in 1846, the decision to conciliate the men of the defeated "Khalsa Army" and to enlist Sikhs in the service of the Honourable East India Company resulted in the birth of the "Regiment of Ferozepore"—the 1st Bn. of the Sikh Regiment—which became the Sikh element of the Company's Bengal Army.

This Battalion has a colourful history. It played an important part in the defence of Allahabad Fort during the mutiny of 1857. After the mutiny, the East India Company ceased to exist and the Army in India was reorganised. The Presidency Armies now consisted only of Indian troops, which became part of Her Majesty's Forces. The Regiment of Ferozepore was designated the 14th Regiment of Bengal Native Infantry, although it was generally known as the 14th Sikhs.

The Regiment took part in various campaigns in India, especially on the old North West Frontier—the Ambala Expedition 1863; the Jowaki expedition of 1877, the Second Afghan War in 1878, in Waziristan in 1881, the Black Mountain Expedition in 1888, in Chitral in 1895, in the Tochi Field Force in 1897, and in the campaign against the Boxer Rising in China in 1900. During World War I, the 14th Sikhs were sent to Egypt as part of the 29th Indian Infantry Brigade in 1914, and acquitted themselves creditably in the defence of the Suez Canal Area, in Gallipoli, the third Battle of Krithia (1915) and in Mesopotamia in 1918-1919.

In 1922, during the reorganisation of Indian Infantry, the 14th Sikhs lost their individual identity and became the 1st Bn. of the 11 Sikh Regiment. Between the World Wars the Battalion served in Iraq and India, taking part in the Chitral Emergency Column, 1932, in the Mohamand Operations 1933 and in Waziristan in 1937.

The Second World War saw the Battalion again in action. After arriving in Rangoon in March 1942, the Battalion took part in the attack at Tankkyan, but the withdrawal of the army in Burma had started by then. The Battalion returned to India as part of General Alexander's withdrawing forces in May 1942. In October, the Battalion took part in the Arakan Campaign as part of the Seventh Indian Division and went through the various campaigns of the Division until the Japanese surrendered in September 1945. After the declaration of peace, the Battalion served in Siam and Malaya and carried out internal defence duties.

The book is written in a very interesting style and contains many maps, photographs, sketches, and coloured illustrations depicting the progress of the Battalion. It is a volume which deserves to receive a place in every military library. In his foreword to the book, Lieut-General Sir Frank Messervy says that "this magnificent Battalion, with a truly unconquerable spirit, gained reputation and won fame

second to none during the battles for the reconquest of Burma. This story of a hundred years of great achievement, written as a labour of love by one of its most distinguished Commanding officers, will take a proud place in the annals of the Indian Army."

A.M.M.

WAR BETWEEN CONTINENTS

F.O. MIKSCHÉ & E. COMBAUX

With Maps. Faber and Faber, 15/-.

The authors, both refugees from Europe, believe that after World War II the conditions in the world in general, and Europe in particular, are portents of evil. They have made a clever analytical survey of the present international developments and the national policies of the Great Powers of the day. And in the subtle manoeuvring for power and strategic places, in the growing antagonism between the various nations, which only a few years ago contributed their might, man-power and resources to defeat a common enemy, they see the seeds of a future conflict.

The book starts with the assumption that there would be a World War III and, like many other authors, they suggest that the best method of avoiding such a catastrophe is to be prepared for it. With the experiences of underground fighting in Nazi-occupied Europe and intimate contact with the present developments of war they have painted a very vivid picture of "futurist" war.

The war has to be between two opponents and they have openly stated, what for various reasons many authors do not so clearly state, that the future war would be between a continent dominated by Communist Russia and another controlled by the capitalist democracy of America. They have painted the differences between these different types of Governments and have tried to prove that, though there is a wide gulf between the two, it can be bridged with better understanding.

Today, after the defeat of Germany and Italy in Europe and Japan in the Far East, and the economic strangulation of Great Britain, two mighty powers remain in the world—the land colossus of Russia and the air and naval power of America. The war between these continents, if and when it takes place, would follow the usual patterns of war despite great technical developments and "push-button" warfare. In such a war, which must be fought for the subjugation of the will power of the opponent by destroying his fighting ability and occupying his country, geography will still play an important part.

After a careful survey of the past campaigns and the present-day strategic boundaries of the various countries, the authors have come to the conclusion that there are many danger spots in the world from where the trouble might start. But the three fronts of Western Europe, the Middle East and the Far East, will play a dominating role.

The opposing powers will try to dominate as many countries as possible between their own territory and the enemy, through a diplomatic war which precedes military intervention, like the domination of "No Man's Land" in actual fighting. The "armed fist" diplomacy so blatantly demonstrated by Bismarck and Hitler is being practised by the major nations. The Russian bear is hugging the Danubian and Balkan states under one arm while throwing out the other to sweep in China and the over-populated areas of South East Asia, while America is trying to unite

the states of Western Europe under the Marshall Plan and is in direct occupation of Japan.

In the event of the balloon going up, the authors have explained the strategic plans of Russia and America. The former would exploit its preponderance in man-power and try to overrun Europe and such other areas in the Middle and Far East from where "capitalist forces" can be mounted against the industrial bases of the Russian mainland. Russian effort would be to deny the mainland of Eurasia and the north coast of Africa to the capitalist confederation and, having attained this object, to fall back on the defensive because Russia would never have the naval or air forces to attempt the invasion of the Americas, the bastion of "capitalist" defence.

The American strategy would be based on their superiority in air and naval power and the full exploitation of the atom bomb. The capitalist confederation may have to suffer initial set-backs because it is difficult to presume that they will take the initiative in starting an aggressive war. But once they are forced into a conflict, like America after the attack on Pearl Harbour by Japan, the spring would recoil back with tremendous force and hit Communist Russia straight in the face. The bombing attacks on Communist centres in Russian-occupied areas would be followed by mass landings of forces on the three strategic fronts to envelope Russia from all directions. In this gigantic struggle over vast distances, huge forces would be engaged, tremendous resources would be mobilised and the war of attrition would cost very heavily in man-power and material.

The authors believe that realising the tremendous cost and the inevitable destruction that would follow, the antagonist powers may listen to the voice of reason, adjust their differences and combine into a united effort for the progress of the world. The starting point for the new spirit of co-operation must be the rehabilitation of Europe, the homeland of the authors.

The authors, with much imagination, combined with practical knowledge, have written a very interesting book with plenty of food for thought and have clearly indicated that the use of new weapons like guided missiles, supersonic planes, of modern arms like air-borne troops, the development of the new strategy of "Cubic" instead of "Area" or "Linear" warfare, requires a complete reorientation of military thought and theory, with consequent reorganisation of the armed forces and their deployment for new offensive and defensive roles.

R.S.

AT FREEDOM'S DOOR

MALCOLM LYALL DARLING

With Illustrations & a Map. Oxford University Press, Rs 14/-.

Malcolm Lyall Darling, the well-known Civilian Officer in the United Punjab has written an interesting book on his journey from Peshawar in the North-West Frontier Province to Jubbulpore in the Central Provinces. He travelled mostly on horseback or foot. With him were his daughter and her Belgian husband. They took 111 days and covered 1400 miles, doing 32 miles for the longest march and 4 miles for the shortest.

The author travelled across the country just before the division of India and the establishment of Pakistan in 1947. He tried to imitate Arthur Young who rode through France on the eve of the French Revolution. The days of the British rule

were numbered, and the country was in a state of ferment. The Congress demanded unity of the country, and the Muslim League division and Pakistan.

In every village the author happened to pass, he put questions to the people about politics, British administration and the changes it had brought about in the village life. "Before the war politics touched only an occasional village, and for the most part Hindu, Muslim and Sikh lived together as neighbours should", and the only "friction was economic—dividing landlord and tenant, trader and cultivator, money lender and peasant."

The book which is largely a day-to-day account of the journey, presents a realistic description of village life in northern India, giving a fascinating account of the customs, manners, habits of the people and the mode of their life. It touches on numerous subjects such as rations and controls, women and purdah, marriage and birth control, fields and crops, orchards and gardens, drink and diet, untouchability and caste. There are many interesting observations such as that "no Pathan would ever dream of sitting upon the ground itself. That is for menials." Speaking of the Shah Nurgur fair held near Rawalpindi the author says that many adventurous young men would "garland the dancing girls with notes, a hundred rupee note in the centre and the others all ten rupee notes."

The author has apparently written without any exaggeration or affectation, but the reader will be convinced that the author, according to the Churchillian school believes not in national government but in good government. It is a work of great value, and will serve a useful purpose for free India to turn her immediate attention to the poor masses living in villages whose condition is thus depicted: "Disease and death are never far from his door, and flood, drought or blight never far from his fields." There is a large number of photographs, a note on wages and prices, 1946-47, and a useful glossary at the end.

H.R.G.

INQUEST ON AN ALLY

PAUL WINTERTON

The Crescent Press, London, 12/6

Mr. Paul Winterton, the famous journalist and author of "Report on Russia" has made a useful addition to current political literature by his new book "Inquest on an Ally". He has taken pains to unravel the tangled skein of diplomacy which has divided the world into two rival armed camps—Soviet Russia and the Anglo-American bloc. We find in the book a detailed examination of the expansionist technique of Russia—how Moscow-trained revolutionaries established Communism in Eastern Europe; Tito in Yugoslavia, Dimitrov in Bulgaria, Anna Pauker in Rumania, Berut and Gomulka in Poland, Rakosi in Hungary, and Gottwald in Czechoslovakia. The attitude of the Allies towards the problem of Germany is explained at length. The account appears rather biased since Russia is shown in the garb of aggressor, not amenable to reason and logic. But that, in fact, is the chief object of the book, i.e., inquest on an ally. It is a formidable indictment of an erstwhile ally. Soviet activities behind the iron curtain in Eastern Europe, her obstructionist policy towards the problem of Germany, her sustained hostility towards the British Empire, her wilful misuse of the veto at the U.N.O. in creating several international crises, are explained in detail. The book is written in a charming racy style.

D. P.

REGIONALISM AND SECURITY

INDIAN COUNCIL OF WORLD AFFAIRS

Oxford University Press, Rs. 4/-

The Indian Council of World Affairs deserves to be congratulated on the publication of a collection of essays entitled "Regionalism and Security". The Atlantic Pact has shown the importance of a regional approach to the problem of security. The book is useful, informative and thought provoking. It contains a brief history of the earlier attempts at regional organisation and throws a flood of light on the problems of security as they affect Australia, India, South-East Asia and the Middle East.

D.P.

HOW RADAR WORKS

KENNETH ULLYETT

Harrop, 7/6

H2S may convey nothing to the layman. At best it will remind him of hydrogen disulphide of the boisterous school-lab days. But in the language of the radar expert, it means the screen which, in an aircraft cockpit, gives a television-like picture, or a topographical map, of the terrain below.

H2S is merely a code-name, used during the war to conceal from the enemy the true nature of the British researches in the direction of blind navigation and blind bombing. The war has ended and the need for secrecy is gone. But the code-word persists and may, like the "X-ray", one day become a familiar English word.

This is one of the many things that come to light in Kenneth Ulliett's "How Radar Works". The author writes with an intimate knowledge of the subject and explains the basic principles and technical details in lucid language easily understandable even by one who has never seen a radar at work.

The term Radar, as almost everybody knows, is an abbreviation of the phrase "radio detection and ranging". The technique of detecting an object in space and fixing its location consists, broadly speaking, in transmitting short, sharp bursts of electrical energy, which are "echoed" back by the object they strike. These electrical "echoes" are translated into visible lines and shapes on a fluorescent screen at the receiving end. Those who know only this much about Radar can be said to know next to nothing about this war-time marvel. They will find Kenneth Ulliett's "How Radar Works" full of interesting information and useful knowledge.

P.C.B.

FROM SMOKE TO SMOTHER

DOUGLAS REED

Jonathan Cape, 10/6

The book is a sequel to the author's "Insanity Fair", (1938). The author claims that the shape of events during the 10 years following 1938 is that of the

forebodings and warnings which fill *Insanity Fair*. The part entitled *Smoke* deals with the aggressions of Hitler and the personalities that were caught in the vortex of aggression. Hitler and Lenin and Stalin are great depopulators. The appalling thing behind the mad acts of Hitler is not the 'smoke' but the 'design'. Turning to the war, the author says that the only way of stopping the spread of Communism in Europe would have been an early invasion of Europe for which Stalin had clamoured. The part entitled *Smother 1945-50* brings out well the dangers of the spread of Communism.

K.G.

THE MAN-EATING LEOPARD OF RUDRAPRAYAG

JIM CORBETT

(Author of *Man-eaters of Kumaon*)

Oxford University Press, Rs 6/-

The author has as facile a pen for describing his humane adventure as he had a skilled gun for the kill. When Jim Corbett first went on the trail of the man-eating leopard, it was already credited officially with more than 120 human kills. For six years from 1920 the animal had absolute sway over an area of 500 miles in Garhwal. In the mountainous country it was difficult to track a cunning animal which perhaps had become more cunning after becoming a man-eater! The author tells us in a racy style the true story of his attempts to track and kill the leopard. We get a sustained excitement as intense as that which the author must have had while the adventure was on.

K.G.

CORRESPONDENCE

OCEAN RACING COMPETITIONS FOR THE ARMED FORCES

BRIGADIER THAKUR SHEODATT SINGH

The object of this letter is to put forward certain ideas on the organisation of Ocean Racing for the Armed Forces of India. It may seem odd that I as an Indian Cavalry Officer with spurs, and lately as an Armoured Corps Officer, should suddenly think of getting inside a sailing vessel and start to sail the seas. But in my youth, during my holidays on the East Coast of England, on the Wash in Norfolk, I used to be very keen on sailing. The Ocean Racing Competition is still prevalent in England and I think the Royal Engineers Depot at Chatham always used to enter a team for this Competition.

I suggest that Competitions should be organised as follows:--

A Team should consist of one Officer, one JCO or equivalent rank and 7 ORs as Crew. The boat to be a local coastal type sailing vessel which can be manned by the above crew. Teams should be entered from all three Services i.e., Navy, Army, and Air Force.

One Race will be organised from Bombay to Cochin and another Race will be organised from Calcutta to Madras, once a year, preferably in December.

The crews would have to be trained by coastal seamen who would teach them how to handle sails, all about navigation by stars, winds, currents, use of compass and sextant. This would be useful for combined operations training and also help the ORs to get over sea-sickness, etc.

The cost of the enterprise would be very little and can be met from the Training Grant, if necessary. It is suggested that during the first few races, three Naval sloops should follow the three vessels to assist them in case they get into trouble.

The prizes could be obtained from some patriotic and rich people in India. The crews could be trained on a fixed deck with sails, riggings, etc., in Regimental Centres and do their final training in Bombay or Calcutta before the race starts. In later years Civilian entries could also be allowed.

The Crews would be welcomed at the end of the race at Cochin and Madras or *vice versa*. Parties would be organised to welcome them. The Crews, when they come ashore, will be pretty tough and hardy and will have a nice sun-burnt colour. More details for such a Race could be got from the U.K.

The proposal sounds difficult, but it is not impossible to carry out. What do the R.I.N. think about this? We landmen could put up a good show I am sure, and from what I know of the R.I.A.F., they would also take up this challenge.

ARMY ART SOCIETY

Honorary Secretary, Army Art Society, 2 Iverna Gardens, London, W. 8.

The Society held its seventeenth Exhibition, the second since the war, during the month of October last in the Imperial Institute, Kensington, S.W. 7. The Exhibition was open to the public for three weeks and the attendance was most satisfactory. No check of numbers could be made but more catalogues were sold than ever before. The Exhibition was a great success. 436 works were shown but over 100 could not be accepted for lack of space. The standard was high, of many of the works very high indeed, especially among the water colours and sculpture. Sixteen works were sold.

The Society's next Exhibition will be held in the Imperial Institute during October this year. Receiving Day will be Monday, October 3rd. The Exhibition will be open to the public for three weeks.

All ranks of the Army and Royal Marines, past and present, permanent or temporary, who are not already members of the Society are eligible to submit works for consideration on Receiving Day. The fees payable are a Submission Fee of 2/6 on each work submitted and a Hanging Fee of 5/- on each work shown. Exhibitors will be considered by the Committee for election to Membership of the Society.

All ranks of the Royal Navy and Royal Air Force and of other Armed Forces of the Empire may also submit works and may also be considered for election as Associates.

The Rules and all further particulars may be obtained on application from the Honorary Secretary, Colonel L. N. Malan, O.B.E., 2 Iverna Gardens, London, W. 8.

EXTRACTS FROM LETTERS TO THE EDITOR

Colonel F. C. Molesworth, Culworth, Bideford, Devon, England.

With reference to page 318 of your July 1948 number, and without entering into competition with anyone on what is largely a matter of age, I write to say that I can beat Colonel Hadow's record of life membership.

I became a life member in 1908 when an attache in what was then the Chief of Staff's division at A.H.Q.

I feel that there must be many members with much longer terms to their credit, and it would be interesting to know who holds the palm.

I have read the Journal regularly since then—for many years I reviewed it for the R.E. Journal—have found it very useful in all sorts of unexpected ways and congratulate the Editor and its many contributors on its success.

Lieut.-Colonel W. E. Maxwell, Riverview, Bandon, Ireland.

When I was Secretary and Editor of the U.S.I., I remember how difficult it was to get even contacts with chaps overseas—who were either too lazy to send a cheque, or too broke!

I would like to say how greatly I appreciate the new joint U.S.I. I found it a difficult enough job to produce and edit in the piping days of peace 1932-33, when I took over from an editor who had reduced the toil and agony to nice stream-lined proportions—he was a Major W. Slim M.C. in those days. But now having to change over the printing from Lahore to Delhi with its appalling amount of detailed trouble I realise what a really hard job it is — especially when in these matters we are all amateurs.

Lieut.-Colonel Chander Bhan, O.C. 3rd Bn., 17th Dogra Regiment, Ferozepore Cantt.

I congratulate you on your efforts to maintain that high standard of the Journal which existed before the partition.

Lieut.-Colonel Mathura Singh, No. 11 Services Selection Board, Bangalore.

I must congratulate you that despite so many difficulties the Journal is flourishing. The Journal actually has become more interesting than before.

Lieut.-Colonel J. V. Bell, Continental Hotel, 12, Chowringhee, Calcutta.

I would like to say how much I still enjoy the Journal and assure you I put down all other reading matter until I have finished it.

Commander (S) A. Pereira, RIN, Cabinet Secretariat, New Delhi

I have received the U.S.I. Journal and wish to congratulate you on its very high standard.

Lieut.-Colonel B. P. Sharma, MBE, Chief Education Officer, H.Q. Eastern Command, Ranchi.

I should say that in spite of the difficulties with which you were confronted you have made it into an excellent Journal. I wish the U.S.I. Journal the very best of luck in its future issues and hope it will become increasingly useful and interesting to its readers in and outside India.

Major Hari Chand, 15 General's Road, Mhow.

I shall always do my best to make the Institution and the Journal as popular as I can.

SECRETARY'S NOTES

According to the revised Rules of the Institution the Council will be composed of twenty members, of whom five will be ex-officio, three representative and twelve elected. There will be a President and two Vice-Presidents, these offices to be held in turn by the Deputy Commanders-in-Chief of the three Services.

Annual Council Meeting

The Annual Meeting of the Council was held in New Delhi on 28th October, 1949.

Major-General Kalwant Singh, Chief of General Staff and Deputy Commander-in-Chief Army, was elected President for 1949-50, the two Vice-Presidents being Air Vice-Marshal S. Mukerjee, OBE and Commodore H. Drew, CBE, DSC, RN.

The President's Report for 1948 showed that during the year 601 new members and messes were enrolled. At the same time, besides members resigned and messes closed down, the Executive Committee had to write off a number of former members who were only nominally on the roll for 1946 and 1947. This was attributed to the abnormal conditions created by rapid demobilisation in the post-war years. The net increase in membership for the year under review was 95.

The Auditors' Report and Statement of Accounts showed that income during the year amounted to Rs. 52,970 and expenditure Rs. 49,397. Subscriptions had increased by Rs. 11,200 due to the re-introduction of Entrance Fee from 1st January, 1948 and more life members registered in the year.

It was decided that the President should convey the thanks of the Council to Bawa Bachittar Singh for his donation (through the Ministry of Defence) of Rs. 750 for an essay competition on a subject relating to Defence to be conducted by the U.S.I.

The offer of a Silver Medal by General Cariappa, C-in-C Indian Army and the out-going President of the U.S.I., for an essay competition on the subject of the teaching of history to the Armed Forces was gladly accepted by the Council. It was decided that this competition should bear the name of the donor.

The Council passed a resolution of condolence on the untimely demise of Major-General Atma Singh as the result of a fatal car accident.

Major-General P.N. Thapar was co-opted to the Council in place of the late Major-General Atma Singh.

Subscriptions from U.K.

Members in the United Kingdom may pay their annual subscription of 15 shillings in the current account of the Institution in Lloyds Bank, Ltd, 6 Pall Mall, London S.W. 1.

Back Issues of the Journal

The Institution has no spare copies of the Journal for January 1947 and January 1948, and is willing to buy a limited number at cost price.

The Royal Canadian Military Institute, 426 University Avenue, Toronto 2B, desires to acquire the following copies of the Journal to complete their records.

No. 308 July 1942

No. 310 Jan. 1943

No. 311 Apr. 1943

No. 326 Jan. 1947

Will any member who wishes to dispose of these at cost price please communicate with the Secretary?

New Members

From 1st February to 30th September, 1949, the following new members joined the Institution :—

ABDUL QADIR, F/Lieut. R.P.A.F.

AHMAD, Major S., The East Bengal Regiment.

AMAR SEN, Major, The Assam Regiment.

AMAR SINGH, Captain, The Dogra Regiment.

*AMREEK SINGH, Lieut.-Colonel, R.I.A.

ANAND, Major C., I.A.O.C.

*APCAR, Colonel S.T., I.A.

ARORA, Major D.R.S., R.I.E.

BAJWA, Lieut.-Colonel B.S., 2nd Punjab Regiment.

BAKHSHI, Captain B.N., I.A.O.C.

*BAKHSHI, Major P.R., 1st Gurkha Rifles.

BAL, Captain B.S., 18 Cavalry.

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BATRA, Brigadier B.N., I.A.

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DEVA, Colonel O., I.A.

*Life Member.

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ESSAY COMPETITIONS

CARIAPPA MEDAL

Subject

"The History of a country has little value if it does not tell us about the efforts of her people to achieve a higher civilisation, to reach better standards and to live a richer life. History is the record of the social endeavour of the people.

"Many people consider that history, as usually taught, lays too great stress on dates and events, with the result that little attention is paid to the evolution of society and the attainments of the people.

"What are your views on the teaching of history generally, and in particular to the ratings and other ranks of the three Services?"

Rules

1. The competition is open to all officers of the Navy, Army and the Air Force. It will be conducted by the United Service Institution of India.
2. All essays must be typewritten and submitted in *triplicate*. They should not exceed 3000 words.
3. When a reference is made to any work, the title of such work must be quoted.
4. The essays must be strictly anonymous and must be under the pseudonyms of the competitors. They must be accompanied by a sealed envelope with the *pseudonym written on the outside and the name of the competitor inside*.
5. All essays must be sent by registered post, addressed to the Secretary, the United Service Institution of India, Simla, so as to reach him by the 31st March 1950.
6. The essays will be adjudicated by three judges chosen by the Council of the Institution, on their general merits.

Prize

7. The Chief of Army Staff and Commander-in-Chief has kindly presented a silver medal which will be awarded to the competitor who submits the best essay.
8. Some of the essays may also be published in the Journal; official sanction will be obtained by the Institution before these are published.
9. All essays submitted will become the absolute property of the Council.

THE BAWA BACHITTAR SINGH PRIZE ESSAY, 1950

The subject is :—

“India’s declared policy in regard to her relation with foreign countries is to strive for world peace, to support the United Nations, to avoid all entanglement with Power Blocs and to use her good offices for the liberation of dependent peoples.

“Her geographical position is of immense strategic importance.

“She is greatly dependent, for some years upon imports of certain main commodities such as fuel, machinery, munitions, food. Taking account of these factors, develop your recommendation as to the most suitable balance of Defence Forces in peace time, for her protection in War”.

All essays should be type-written and submitted in triplicate. They should not exceed 5,000 words, exclusive of tables.

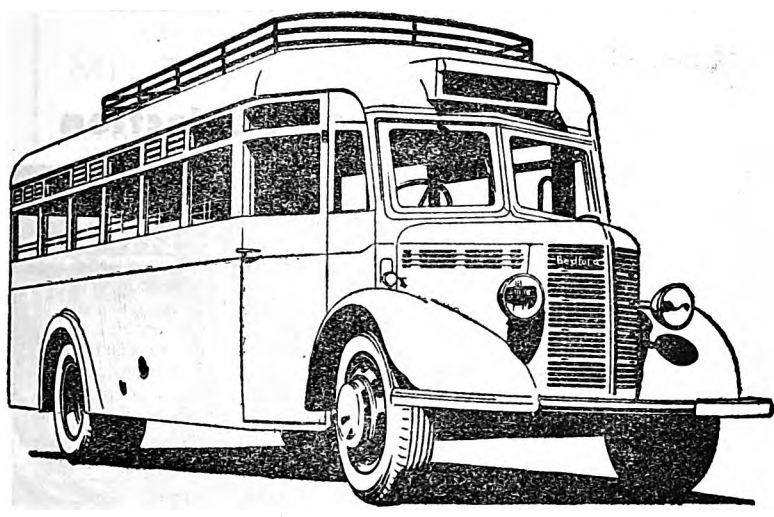
The essays must be strictly anonymous and must be under the pseudonyms of the competitors. They must be accompanied by a sealed envelope with the pseudonym written on the outside and the name of the competitor inside.

Entries should be sent by registered post addressed to the Secretary, the United Service Institution of India, The Mall, Simla so as to reach him on or before 15th February, 1950.

Full details regarding this competition were given in the previous number (January-April issue) of the Journal.

GOLD MEDAL PRIZE ESSAY COMPETITION, 1950

A subject for this competition is still under consideration. It will appear in the next issue of the Journal. It is hoped to make an earlier announcement through Fleet Orders, Army Orders and Air Orders.

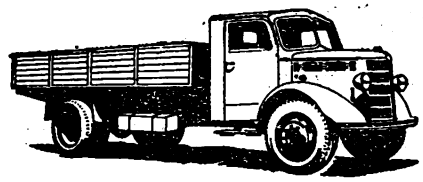


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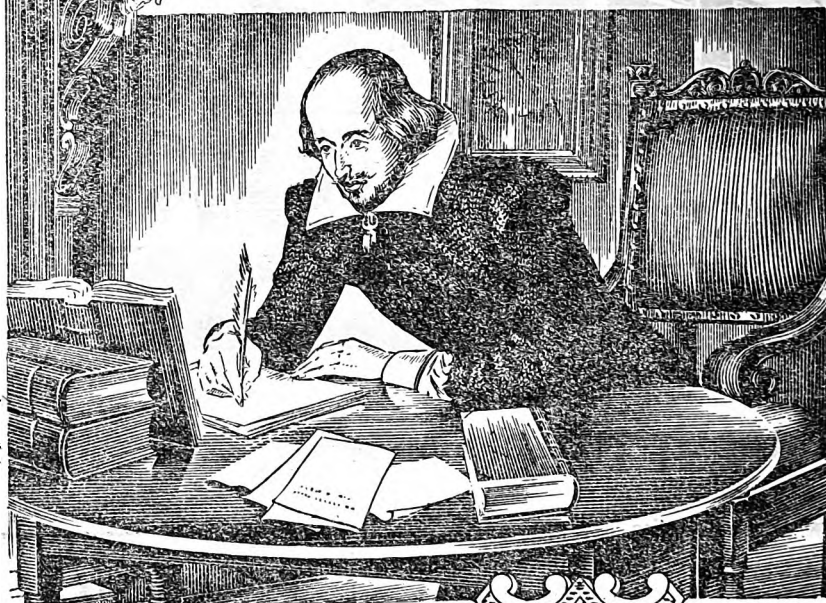
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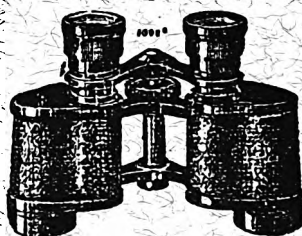
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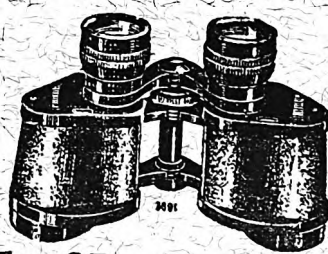
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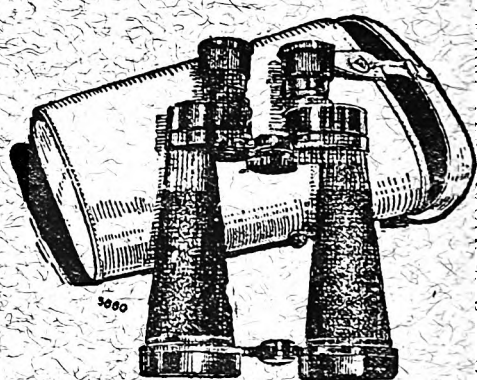
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Printed by The National Printing Works, Mori Gate, Delhi, and Published by Lieutenant-Commander K. V. Cherian, RINVR for The United Service Institution of India, Simla.

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U.S.I. JOURNAL

JANUARY, APRIL, 1950

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The Journal of the United Service Institution of India

Vol. LXXX.

JANUARY-APRIL 1950.

338,339.

The views expressed in this Journal are in no sense official and the opinions of contributors in their published articles are not necessarily those of the Council of the Institution.

EDITORIAL NOTES

The Republic

Of nations no less than of individuals it can be truly said that quiet confidence is a sign of inner strength and discipline. No lavish display or excitement or vainglory characterized the birth of the Indian Republic on 26th January. Simplicity and dignity provided the keynote for this historic event. The strength of the State will depend on the moral fibre of the nation. The loyalty of her citizens has been formally reaffirmed. And what is this loyalty, except character and discipline?

The Services are the symbol of discipline. That they fully realize their grave responsibility was shown in the solemn messages pledging loyalty to the new Constitution from the Commanders-in-Chief of the Army, Navy, and Air Force to the President of India and the Supreme Commander of the Defence Forces of the Union.

India, of her own free choice, remains in the Commonwealth, which, if anything, has only been strengthened by this peaceful evolution.

Our Patron

Dr. Rajendra Prasad, President of India, has honoured us by agreeing to be our Patron. The Journal wishes the President a successful and happy tenure of his great office.

We wish health and long life to our ex-Patron, Shri C. Rajagopalachari, on his retirement from the office of Governor-General.

Air Marshal Sir Thomas Elmhirst

On completion of three years' service in India, Air Marshal Sir Thomas Elmhirst, K.B.E., C.B., A.F.C., has returned to the U.K. pending retirement. He came to India in February 1947 as Chief of Inter-Service Administration at Armed Forces Headquarters, New Delhi. On 15th August 1947 he became Air Marshal Commanding, Royal Indian Air Force, which designation was changed to Chief of Air Staff and Commander-in-Chief R.I.A.F. on 21st June 1948.

On the outbreak of the First World War he was in the Royal Navy. He served in the Royal Naval Air Service from 1915 until the formation of the Royal Air Force, which he joined in 1919.

In the Second World War he served in the Middle East, Western Desert and North West Africa. Before coming to India Air Marshal Elmhirst was Assistant Chief of Air Staff (Intelligence) at the Air Ministry in London from August 1945.

Air Marshal Elmhirst has been associated with the U.S.I. first as a member of its Council and afterwards as a Vice-Patron. Our good wishes go with him in his retirement.

Air Marshal Ivelaw-Chapman

We welcome the new C-in-C of the Indian Air Force who will also be ex-officio Vice-Patron of the Institution. Air Marshal R. Ivelaw-Chapman served in both World Wars, in both administrative and operational spheres. In between the two wars he served for a short while in India.

He was Director of Policy at the Air Ministry in 1943. While in command of a base in the Bomber Command, his aircraft was shot down over France shortly before D-day. He evaded capture by the enemy for a month with the help of the underground movement, but was eventually caught and sent to a prisoner-of-war camp.

Air Marshal Ivelaw-Chapman now comes to India with recent experience as an Instructor at the Imperial Defence College.

South East Asia and Japan

Two of the main items discussed at the Conference of Foreign Ministers of Commonwealth countries held in Colombo between 9th and 14th January were, briefly,

- (1) economic and political problems in South East Asia, particularly in the neighbourhood of India, Pakistan and Ceylon.
- (2) the termination of the state of war with Japan.

As regards the first, the communique issued at the close of the Conference records:—"The greater part of this time has been spent in a comprehensive review of the current problems of South East Asia, both political and economic." It was recognised "that in the changing conditions brought about by recent developments in this area progress depends mainly on the improvement of economic conditions." This willingness on the part of Commonwealth countries to accept joint responsibility for the economic well-being of South East Asia shows vision and initiative. The task will not be easy.

As regards the second, "They reconsidered in the light of subsequent developments the provisional conclusions reached at the Commonwealth Conference held in Canberra in 1947 on the conditions for a peace settlement with Japan. On this subject Ministers attending the Conference will submit recommendations to their Governments." India is reported to have supported a quick settlement of the Japanese issue under conditions that will allow Japan economic rehabilitation, political self-determination and an early withdrawal of Occupation Forces.

Will any large-scale revival of Japanese industry be accompanied by a resurgence of Japanese militarism? The answer will lie in how far Japan, under American tutelage, has been prepared for the role of "bastion of democracy" in the Far East.

Science in War — The Hydrogen Bomb

The phenomenal advances in science and technology during recent years have brought about a situation when superior technology has become the real war-winner.

In land warfare mobility and fire-power have always been considered the deciding factors. To increase mobility, recent developments have gone beyond the stage of mere mechanization and armies are depending more and more on air transport. Short range rockets and recoil-less rifles have been developed to produce fire-power of great volume without encumbering the troops with bulky artillery. These still lack somewhat the accuracy of the more orthodox guns, but can

easily make it up by better fuses, such as the V.T. or Radio-Proximity fuse. What they require in the weight of punch they can acquire by special devices such as the "shaped-charge" effect.

In naval warfare too, rockets may gradually displace guns. The capital ship of the future may be the giant rocket-ship, firing super V2s, with a cluster of aircraft-carriers, ack ack cruisers and destroyers for its protection. Its only rival for the place of honour in the fleet is likely to be the submarine, whose potentialities have been increased by inventions like the Schorknel and the Walther U-boat. There is the recent exploit of the American vessel which remained submerged for 21 days and covered over 5,000 miles under water.

The greatest advances, however, have been recorded in the realm of air warfare. With jet engines, the maximum range of service aircraft today is 12,000 miles instead of the paltry 3,000 miles before the war. The performance of the British airliner "Comet" shows that bombing missions of 3,000 miles at average speeds of 450 m.p.h. are practical propositions now.

At the same time, pilotless planes flying on a set course or guided by radar have been developed to eliminate the fallible human element. Such devices may be of three kinds, *viz.*, the self-guiding or "homing" missile like the "Bat", the plane or rocket flying on a set course like the V1 and V2, and the plane guided by remote control radar. Guided missiles, however, are only transport agencies, and may have war-heads of very different types, such as poison gases, deadly bacteria, or atomic bombs. Poison gases and disease carrying bacteria are similar weapons in being largely unknown and mysterious. The atomic bomb, on the other hand, is a definite military weapon of proved effectiveness.

And now the U.S.A. is trying to produce the Hydrogen Bomb. Based on the fusion of four hydrogen atoms into one helium atom, the new bomb will convert .8 per cent of the mass of its hydrogen into energy, and will be as different from the old atomic bomb as the atomic bomb was from a block-buster. Exact details are still unknown, but the H-bomb is expected to have an area of total destruction between 20 and 100 square miles.

The National Cadet Corps

The progress made by the N.C.C. in the first eighteen months of its existence is reviewed in an attractive booklet issued by the National Cadet Corps Directorate. The National Cadet Corps Act was passed in April 1948 and the first batch of units raised on 15th July, 1948. The old University Officers' Training Corps was disbanded at the same time.

The N.C.C. has a Senior Division for Colleges and a Junior Division for Schools. As an experimental measure a Girls' Division

was also set up in 1949 known as "Girls' Troop N.C.C." Officers are volunteers from the teaching staff of Universities, Colleges and Schools.

The Senior Division at present consists of an Army Wing with Infantry, Armoured Corps, Artillery, Engineer, Signal, and Medical units. It is intended to raise two units of an Air Wing as well. A certain number of cadets of the Senior Division will be granted Commissions every year if considered suitable by the Selection Boards, etc.

The Junior Division is an Inter-Service Organisation and gives training in subjects of the Army, Navy and Air Force. Basic training in drill and weapon training are common for all three Services. The idea of imparting military training to schoolboys is to develop in them qualities of leadership and discipline at an early age. The cadets of the Junior Division can apply for admission to the Joint Services Wing of the National Defence Academy, where the age for entry is 15 to 17 years.

In the Girls' Division cadets are trained in physical culture, drill, motor vehicles, signalling, nursing and first-aid. Three units have started functioning. The raising of more units will depend on the success of this experiment.

The administration of the Corps is carried on by the Directorate in the Ministry of Defence, through eight Circles, each under a Lieut.-Colonel or Major, who deals directly with the Provincial and State Governments in his area.

The Journal

For some time the idea of using slightly larger type for the text of the Journal has been under consideration. The present press not having the particular type sizes required negotiations were going on with firms in Calcutta and Bombay. Cost and other considerations, however, made any immediate change of printers impracticable. So, at the last moment, it was decided to continue the printing in Delhi for the time being. This has caused some delay in this issue going to press. The January and April numbers have therefore been combined, with the addition of more pages. It may be necessary to make similar arrangements for the next issue before the desired changes in printing can be made.

GOLD MEDAL PRIZE ESSAY COMPETITION

The Council of the Institution has selected the following subject for the Gold Medal Prize Essay Competition for 1950 :—

“India can ill afford the present cost of her Defence Forces. It has been suggested that they could be used for nation-building and revenue-earning activities. Discuss whether this is feasible and give the possible methods by which the Defence Forces might, without detriment to their efficiency in war, undertake such activities”.

Entries are invited from all gazetted officers of the Civil Administration and all Commissioned Officers of the Defence Forces of India including Territorial Forces and Indian States Forces. They should be typewritten (double spacing), submitted in triplicate and be received by the Secretary, the United Service Institution of India, The Mall, Simla, on or before 1st November, 1950.

Entries will be strictly anonymous. Each essay must have a motto at the top instead of the author's name and must be accompanied by a sealed envelope with the motto outside and with the name and address of the competitor inside.

Essays may vary in length between 4,000 and 8,000 words. Should any authority be quoted in the essay, the title of the works referred to should be given.

Three judges chosen by the Council will adjudicate. They may recommend a money award not exceeding Rs. 500/- either in addition to or in substitution of the Gold Medal and will submit their decision to the Council. The name of the successful candidate will be published in the January 1951 issue of the Journal.

Copyright of all essays submitted will be reserved by the Council of the United Service Institution of India.

LEADERSHIP

LIEUT.-COLONEL B. L. RAINA, A.M.C.

In time of peace the task of a unit commander of any armed force to lead, train, keep up morale and command his unit is more difficult than that in time of war, when there is usually a clear object before him and his men. What are the qualities required of a successful unit commander and how can we best ensure that our officers are trained in leadership in order that they may become both good commanders and good leaders ? *

I

LET us first discuss the qualities of a good unit commander.

THE GOOD UNIT COMMANDER

It will be futile to enumerate a long list of qualities of head and heart, for that will be describing a genius. Soldiering, however, is a complicated business. The field of activity of a unit commander is wide. The situations for which he has to train his men are varied. The men he has to mould are not often similar in mental development. Study of biographies of good unit commanders and eminent military leaders reveals that their success was due to different sets of attributes. Many of them did not even possess the traditional virtues associated with good leadership. This makes the task of enumerating the qualities of a good unit commander all the more difficult.

Socrates¹ once described the qualities of a general as follows :

“ The General must know how to get his men their rations and every other kind of stores needed for war. He must have imagination to originate plans, practical sense and energy to carry them through. He must be observant, untiring, shrewd ; kindly and cruel ; simple and crafty ; a watchman and a robber ; lavish and miserly ; generous and stingy ; rash and conservative. All these and many other qualities, natural and acquired, he must have. He should also, as a matter of course, know his tactics ; for a disorderly mob is no more an army than a heap of building material for a house.”

These qualities may be equally applied to a unit commander who is a general of his unit and aspires to command many units as a general before he retires. One may not agree with the emphasis the Greek seer has given to each quality. His approach to the problem (which is mainly a psychological one), however, cannot be challenged.

Successful leadership depends on willing obedience and loyalty of those who are led. The leader must know his men individually and collectively and possess the ability to train, educate and lead them in peace and war. He should be able to mould

* Subject for the Gold Medal Prize Essay Competition of the U. S. I. for 1949. This essay was awarded the first prize. (Ed.).

¹ Quoted by General Sir Archibald Wavell in *Generals and Generalship*, The Lees Knowles Lectures delivered at Trinity College Cambridge 1939, The Times Publishing Company Ltd., (1941) page 2.

them into tough, courageous, disciplined and skilled soldiers. His men should be able to handle their weapons with precision not only on the firing range but also in the atmosphere of confusion and disorganisation which might be met with in action, in complete disregard of their personal safety. This is obviously not an easy task. A unit commander should possess certain basic qualities before he can successfully handle and train his men.

Character

Field-Marshal Montgomery¹ defines the very word leadership as 'the will to dominate, together with character which inspires confidence'. A strong character really means mental and moral toughness, veracity and integrity. It is essential in peace and vital in war. Mental toughness enables the leader to take responsibility and prompt decisions. Prompt decisions lead to action and inspire confidence. A person is able to lead his men only when he knows what he must do and has the determination to get it done. The determination of the commander—his will to win and sincerity—urges his men involuntarily to obey him. Even a cursory study of the great actions during the two World Wars will soon show that the secret of success of a young unit commander during unforeseen emergencies can be summed up in two words—character and devotion, character of the leader and devotion of his men. The fighting spirit of a unit is built up on the character of the unit commander. A hypocrite with a bevy of favourites around him can never have a faithful following. A leader without character can hardly be expected to have what is popularly called 'the mettle' or 'guts' in a crisis. Character is the mainspring of leadership which sustains power during all great actions.

Administrative Ability

Administration is a wide term. It covers not only day-to-day administration of the men and equipment under a commander's care but almost every aspect of soldiering. The morale, man management, discipline, relationship between the men and their commander, complaints, crime, fighting efficiency and fighting spirit of the unit are all closely connected with administration.

Morale and Man Management :

Morale is the quality which keeps the zest and spirit of the men high and gives them confidence in their capacity to do the job well. It controls fear in face of danger and contributes to the fighting spirit. Efficient man management is the ability to keep men contented and happy. Morale and man management are really complementary to each other. The success of units of the Armed Forces depends on team work done willingly and cheerfully with zeal and efficiency. If a unit is administered well the men are happy and contented. The men cannot be made happy merely by carrying out set administrative rules and regulations. Efficient management demands forethought, prudence and knowledge of human nature. The average soldier like any other man is frustrated when his primary needs of hunger, thirst, sex and elementary comforts are not satisfied. He is unhappy if domestic worries continuously assail him. He is discontented when his work gets no recognition or appreciation. He is emotionally upset when he is denied opportunities or has no confidence in himself or his leader. The unit commander must get behind the soldier's mind. Tact, courtesy and knowledge of psychological make-up of men and their emotional reactions pay very good dividends. The leader must have a genuine desire to see his men happy and know how to make them happy. He must think out carefully the requirements and difficulties of his men and try to solve them. He should not only see that they get good food, clothing, quarters and hospital aid but

¹ Field-Marshal Montgomery, *Military Leadership*, Walker Trust Lecture No. VIII delivered at the University of St. Andrews 1945 Oxford University Press (1945), page 4.

also ensure that they are kept free from personal worries. His men should feel that their commander is always there to help them in their difficulties. He must always be on the watch for the earliest signs of discontentment. His conduct should arouse such enthusiasm and confidence amongst his men that they automatically acclaim him as their leader. Once this has been achieved their implicit obedience is ensured.

The fighting spirit of the leader is reflected in his men. One question, however, requires some discussion, *i.e.* what makes a soldier risk his life? Is it the soldier's courage or faith in a cause, or belief in his mission or his morale or hope of glory or decoration or some other factor? Personal glory or any other gain alone will not be able to overcome the powerful instinct of self-preservation. Courage alone has limitations. The feeling of his side being weaker than the enemy will sooner or later exhaust courage. Faith in a cause and belief in his mission certainly go a long way towards taking risks. Confidence in his efficiency and his equipment, discipline and *esprit de corps* sustain the fighting spirit. The secret of lasting valour lies not only in making the men tough but also in making them feel strong. The discipline drilled into them and the devotion inspired by their commander ensure that they will never falter. Field-Marshal Wavell¹ in one of his lectures quoted the following from a book on the late war:

“A man does not flee because he is fighting in an unrighteous cause; he does not attack because his cause is just. He flees because he is the weaker, he conquers because he is the stronger or *because his leader has made him feel stronger*”.

Discipline :

One sometimes finds an undercurrent of resentment against discipline amongst some recruits and young officer cadets. Some feel that ‘the previous liberties’ they enjoyed as civilians are being curtailed. Others argue that the discipline as practised in the Armed Forces is something imposed from without and that the fear of punishment associated with it is the governing factor. It is argued that the same, if not better, results can be achieved by raising morale and acting in the desired way from within. Still others say that the present convention of discipline was established centuries ago for unruly hordes, and must, therefore, be relaxed and modified to suit the present conditions.

It has however been repeatedly observed that the best of plans fail when discipline is even slightly relaxed. The example quoted by Lord Moran² of a certain bombing raid well illustrates this point: “The plan was to drop all the bombs in sixty seconds. A pilot in command of a section of the great fleet of aircraft calculated that he would not be spotted so soon by radio location if he flew at a lower altitude. So he took his command down below the rest of the bombers. But at this height aircraft cannot fly at the same speed so that he arrived at the target forty minutes after the rest of the flight had dropped their bombs. Some of them had a delayed action and they contributed to the inferno into which he led his bombers”. The pilot was probably one of the finest airmen but he certainly erred when he broke the discipline of flying in a formation according to a plan.

Dislike of discipline is really a matter of confused thinking. The success of a plan depends on speedy co-ordinated action carried out with precision. Speed, co-ordinated action and precision demand practice and automatic obedience. Automatic obedience is ensured by discipline. Once men are made to look at discipline in its true perspective—as an insurance of efficiency, success and safety—it ceases to be the so-called necessary evil.

1. In *Generals and Generalship*, page 13.

2. Lord Moran, *The Anatomy of Courage*, page 180.

Discipline however is often valueless if the spirit is not in it. The bullying type of discipline takes a long time to become effective and is not enduring. Success in moulding men in such a manner that the word of command compels respect and immediate response rests on good leadership. Discipline is bound to suffer where leadership and man management are poor. A good leader treats his men as human beings. Their devotion is won by kindness not bullying, by wisdom and not by the whip. Real power or authority does not come from rank or uniform. Unflinching loyalty is won by mutual affection, trust and understanding.

The discipline of kindness, however, does not imply that the basic principle should be sacrificed. It only means that discipline is administered fairly and reasonably. The defaulter must be punished if he deserves to be. Even severity in punishment is permissible where kindness fails. Men appreciate a fair and just deal and even tolerate occasional outbursts of temper but constant pin-pricks and sarcasm are intolerable.

Discipline is revealed in turn-out, saluting and drill. The habit of reacting automatically, inculcated by drill and discipline is the great reserve which in crisis brings victory. As someone has said the aim of training and discipline should be such that 'tired or fresh, asleep or awake, drunk or sober, men should be able to handle their weapons, with skill and accuracy on the word of command'.

Complaints and Criticism :

If man management is good, complaints and criticism will be practically non-existent. When morale is high and there is incentive and motivation men bear strain without complaint. Faith in a cause and knowledge of the reasons which demand strenuous labour leave little room for complaints. In the best of units, however, there will be a few who may have complaints. They may be due to bad assignment of jobs or due to lack of personal contact of the men with their commander. Where such complaints get a patient hearing and advice, complaints soon disappear. A Unit 'Darbar' is an excellent forum for considering complaints. But it should not degenerate into a platform for vehement ventilation of petty grievances or for discussing issues which normally should be dealt with in the orderly room.

Crime in Units :

Efficient administration exercises a great influence on the life of a soldier. A considerable proportion of crime in a unit can be traced to faulty administration.

General Freyberg¹ after 'four years of research and inquiry' in the New Zealand Forces concluded that crime in a unit can be divided into four classes :—"1: Pathological crime which includes the sex criminal, the drunkard and the crook. 2: Crime caused by miscarriage of justice. 3: Crime caused by discipline failing to move with the times. 4: Crime caused by the lack of money". He further adds, "Pathological crime is rare, for drunkenness is rapidly disappearing in the army of to-day, sex crimes are confined to isolated instances and the professional crook, the most difficult class of criminal to catch, covers his tracks so well that more often than not his activities escape detection let alone conviction. The second class of crime due to the miscarriage of justice, is sometimes found when officers who are responsible for settling cases do not maintain a judicious attitude. There is occasionally a tendency to bring out the points for the prosecution, with often too little evidence to show that reviewing officers revise and, if necessary, disagree with the awards given. This may be due to a reluctance to cancel punishments, owing to erroneous impression that to cancel an officer's award is to let him down in the eyes

1. Major-General B.C. Freyberg, *A Study of Unit Administration*, pages 4-5.

of his men. The most important factors in the investigation of crime are that (a) the crime should always be discovered; (b) that an innocent man should never be punished. It is important to bring the culprit to justice, but failing that a full and searching enquiry will act as a powerful deterrent." The third class of crime is found in units where commanders show 'a lack of imagination'. Lastly he emphasises that 'in badly administered units' the private soldier experiences greater financial difficulty than in one that is well organised. General Freyberg's remarks have been quoted in detail although they are based on experience amongst New Zealand Forces, for similar conditions do prevail in other Armed Forces and his very valuable observations show how important it is for a unit commander to be a good administrator.

Our soldiers today are well clothed, well housed and are provided good rations and amenities. If only the unit commander studies the regulations, ensures that his men get what they are entitled to and sees to it that what they get is properly utilised, in other words, administers them well—a lot of his worries are solved. On the other hand even if a minor weak spot is overlooked serious problems arise. A common example (almost parallel to the one quoted by General Freyberg) may illustrate this point. A soldier may have to pay some money to the unit 'banyia' or to the canteen contractor for the odd things he bought during the month or food he purchased from them. On his pay day he may find himself with little money to spare. To pay his debt he may sell a part of his kit. The lost kit may mean deduction of the price of the lost kit from his pay. Next time he steals an article from his comrade, which results in his being punished. Such a crime is preventable only if a little care is taken that the sale of articles on credit is limited, or the unit runs its own canteen, or if he does not frequently have to buy food from the canteen.

Professional Skill :

The fighting efficiency of the unit depends also on the skill of the commander in his profession and his ability to pass that skill to his men. To be able to train others, obviously, he must be skilled in his own weapons and field-craft, and be thoroughly conversant with varied equipment and requirements that make the modern Armed Forces an effective weapon. That is not a very easy business. It is acquired by intensive study of past history and the present conditions. The modern composition of the Armed Forces and the weapons at their command are varied and in many cases highly technical. The unit commander must have a thorough knowledge of everything that his unit is expected to handle and must be conversant with those used by others. His mind should be always receptive and inquisitive to learn whatever goes around him.

Apart from training his men the unit commander has to look after the men and equipment under his charge. He must be able to look after everything in his charge not only because it is entrusted to him but also because his stores and equipment should always be in such a state that they can be used effectively at all times.

It may be added that if one wants to learn an art or a science it is necessary that he should have a genuine interest in the subject. Any effort to study a subject without the requisite interest is doomed to failure. Same is true of soldiering which is both an art and a science and by no means simple. A unit commander must therefore have an interest in his profession. He must love soldiering with the zeal almost of a fanatic. His very zeal will make his difficult task easy and inspire the men under his command. It may be emphasised that to be able successfully to train his men the unit commander should have teaching ability.

It will be obvious from the above discussion that a unit commander must have administrative ability of which man management, morale, discipline, *esprit de corps*, knowledge of the profession and ability to teach are important factors.

Personality

A unit commander should have personality. Personality reflects his distinctive qualities amongst which reason, energy, activity and character must be reckoned as essential.

There is no doubt that personality has played an important part in influencing people. Gullett¹ gives a graphic description of Allenby's personality. "His tall and massive but restlessly active figure, his keen eyes and prominent hooked nose, his terse and forcible speech and his imperious bearing radiated an impression of tremendous resolution, quick decision and steely discipline. Troops who caught only one fleeting glimpse of him felt that here at last was a man with the natural qualities of a great driving Commander". Men admire their leader's general appearance, strong physique and confident manner. The manner or the way an action is done is as important as the action itself. Confident manner inspires respect and loyalty. Many commanders with their confident manner have led faltering followers to victory. Personality should however not be confused with appearance and physical attributes. It is the spirit behind it that gives it the magnetic quality.

Courage

A unit commander should be courageous. Courage is born of self-confidence. Self-confidence is a product of real knowledge. It is a common experience that even if a certain event is expected courage is fortified. Expectation mitigates fear. General Rich² relates the story of an old lady who had never been in a train in her life and who on the first occasion that she was making a journey was warned by her friends not to be frightened if the train should stop with a jerk. Shortly after the train had gathered speed a collision occurred. The old lady was thrown violently across the carriage. Picking herself up she said, "They do stop suddenly, don't they?" She was unperturbed because she was expecting a jerk. In case the jerk had come unexpectedly she might have been killed with fright caused by the sudden violent throw.

Fear is a powerful enemy. Many operations in military history have failed because the advance of men ended in a rout in spite of their numerical superiority and better equipment than the enemy. The rout was the result of fear of the enemy's supposed superiority. On the other hand a handful of gallant men have captured objectives from an enemy far better equipped than themselves. Fear is not the same thing as cowardice. Fear, the psychologists tell us, is a normal reaction for self-preservation in all men. The knowledge itself which as stated above is the secret of fortifying courage is sometimes the cause of fear in leaders. For example a unit commander knows sometimes that his unit is completely surrounded by the enemy and appreciates the consequences. His men may not be so much conscious of the grave situation as he. In such situations determination and the fighting spirit come into play. A unit commander should be able to control fear. A leader must have self-possession, for once fear is reflected in his bearing and conduct it is transmitted to the men around him. Once the fear is transmitted it leads to panic. If it is not shown men go on working as if nothing has happened. Another story related by General Rich³ may be of interest. An old Sea Captain had impressed every one of his men by his fearlessness in time of danger. When asked afterwards how he was so

1. H. S. Gullett, *Official History of the Australian Army, 1914-1918*, Vol. VII page 357,

2. Major-General H.H. Rich, *The Qualities of a Leader*, U.S.I. Journal, January 1943, Vol. LXXIII No. 310, page 12.

3. *Ibid.*

brave he replied, "I was determined not to let people see that I was frightened and in the end I found that I was brave".

Youth

Age is a much debated question. There is, however, no dispute over the statement that a young unit commander has more vitality and energy (physical and mental) than an old one and that added years give him relatively more mature judgment. There are, however, officers who though young have been 'through the mill' and have the experience of men many years older than themselves. Similarly there are officers who despite their age have preserved the vitality of youth. Napoleon was 27, Wolfe was 34, Turncome was 63, Abercromby was 68 and Moltke was 70 at the height of their military careers.

"It is impossible", as Field-Marshal Wavell¹ puts it, "really to give exact value to the fire and boldness of youth as against the judgment and experience of riper years; if mature mind still has the capacity to conceive and to absorb new ideas, to withstand unexpected shocks and put into execution bold and unorthodox designs, its superior knowledge and judgment will give the advantage over the youth".

When one examines carefully the duties that a unit commander has to perform it becomes soon apparent that his work both in peace and war demands health, toughness and endurance which are natural accompaniments of youth. It must, however, again be emphasised that it is not only toughness of the physical body that is necessary but also of the mind. Youth is a quality which should not be overlooked.

Initiative and Common-sense

Initiative is another quality a unit commander should possess. Initiative is really a sense of proportion, and the quality of improvisation and adaptability which are constantly demanded of a leader. Take for instance a very common incident. Suppose the ration lorry has broken down far away from the unit. All efforts to bring rations from it have failed. The unit commander should not despair. He should find ways and means to feed his men. He should ask himself if he can get a couple of sheep or some foodstuff nearby or can borrow from a unit next door or even go out and shoot a buck. Problems far more complicated than the one illustrated above crop up from time to time. In the preamble of the R.A.I. it is stated that officers are expected to apply these regulations reasonably and with due regard to the interests of the service bearing in mind that no attempt has been made to provide for necessary and self-evident exceptions. It is under unforeseen circumstances and self-evident exceptions that initiative and common-sense come into play. A unit commander with initiative and common-sense is not perturbed in an unexpected situation. He immediately asks himself the question as to what is the problem and solves it. A commander with lack of initiative and imagination leads not only himself but also his men into difficulties and in times of crisis may bring disaster to a large body of men.

Power of Precise and Effective Speaking

Giving orders by word of mouth is a routine procedure in the Armed Forces. The unit commander impresses his personality on his men by conveying impressively what he wants to say. His ability to communicate effectively with his men plays an important part. Simple words are easily understood. Clear-cut instructions leave no room for ambiguity. Direct presentation of instructions and observation reflects determination.

¹ *Generals and Generalship*, page 6.

Spirit of Adventure

A spirit of adventure is another great quality. Napoleon once said, "If the art of war consisted merely in not taking risks glory would be at the mercy of very mediocre talent". The spirit of adventure is a great stand-by during difficult days. Soldiering itself is best suited to men with inherent spirit of adventure. It is an important asset which comes into play in every crisis. The spirit of adventure, however, does not mean fool-hardiness. Risks must be taken when occasion demands them.

Sense of Humour

Everyone comes across disappointments, mishaps and discomfitures. Occasions arise when one is outwitted by one's enemy. A commander has not infrequently to face grim and grave situations. These do not disturb a man with a sense of humour. His courage is undaunted in the gravest crisis. Such an attitude keeps him alert and the morale of his men high. Sense of humour, however, is not frivolous hilarity. It implies a balanced optimism. Optimism spreads. A long and sad face can hardly inspire hope.

It may be said that quite a few successful commanders in history had no sense of humour. It, however, cannot be denied that those who had it were better off for it.

Ability to Work Out Details in Advance, Pick Up Essentials and Make Correct Use of Each Man

Nepoleon when asked the secret of his prompt decisions said, "because I constantly prepare every detail in advance". A unit commander who takes pains in working out details, plans everything in advance, provides for all possible emergencies and never loses sight of the essentials of the problem before him, can act promptly and effectively in a crisis. It may be added that success not only depends on correct plans but also on correct assignment of each job to the right man.

These are some of the qualities a unit commander should have. Some of them may appear difficult to attain but all of them can be mastered provided one takes pains to acquire them.

II

How can we best ensure that our officers are trained in leadership in order that they may become both good commanders and good leaders?

BASIC CONDITIONS OF TRAINING

It is obvious that education and training are vital factors in producing good leaders. But before discussing training the basic conditions—viz. good material, adequate selection, suitable assignment, capable instructors—which must be fulfilled before training in leadership can start may be examined.

Good Material

All men and women are born with certain intellectual potentialities. These potentialities mature and flourish as they grow. They are modified by family environments, tradition, and the educational and cultural atmosphere in which persons are brought up. Character and personality take shape in the formative years. An educational system which encourages enterprise, initiative, originality and creative spirit, teaches the young a true sense of values, develops powers of observation and appreciation of the senses, produces not only useful citizens but also leaders. An educational system which encourages scramble for academic certificates or transformation of young men into gramophone records of text-books is not obviously

conducive to preparation of young men for leadership. It will therefore be seen that for producing leaders we must ensure a proper educational system and a satisfactory intellectual level of society. It is here that schools and universities can help in producing leaders.

Adequate Selection

Some persons are born leaders. Some others have the capacity to become leaders without much effort. Most, however, learn to be good leaders through hard work and study. There are a few who cannot become leaders despite strenuous effort. It must, however, be emphasised that all intelligent persons prepared to put in some effort can learn the essentials of leadership. Many leaders in the past acquired the qualities attributed to them the hard way. The Armed Forces should therefore be made attractive for painstaking and intelligent young men.

The value of conditions of service as an incentive to young men to join the Armed Forces cannot be underrated. A single illustration quoted by Lord Moran¹ with reference to the British Army is worth serious consideration. "Many headmasters of public schools did their best before the war to discourage promising boys from joining the Army. They had no doubt good reason for doing so. The subaltern's duties did not fill his day. . . . He was left in charge of a platoon for years, while his contemporaries at school were taking positions of responsibility in other professions." We have ample evidence of the same in educational institutions of our country where many outstanding students after qualifying do not take to the teaching profession and often drift to other services. There is one aspect which attracts suitable young men to the Service; i.e. the pride in serving in the Armed Forces and the prestige that a uniform gives to a soldier amongst his people. The uniform of the Armed Forces especially during a war does give the wearer a sense of pride and prestige amongst his people. The public attitude towards the wearers of uniform during peace as defenders of the country's freedom must be maintained.

Selection must be strictly according to merit. Certain physical standards obviously have to be considered during selection. Appearance, weighing machine, measuring tape and a doctor's stethoscope have their own utility but have ceased to be the only criteria for selection. Psychiatric evaluation i.e. detection of intellectual activity, assessment of personality and emotional stability are aids in selecting suitable leaders. Psychiatric tests attempt to reveal the true picture of a person—his characteristics, his mode of dealing with his anxieties, problems and potentialities, his intellectual assets, his adjustment or maladjustment to his own problems and outstanding problems of life. During the routine interrogation at the ordinary interviews the examinee can sometimes speculate as to what questions may be asked and what answers may be to his advantage. During psychiatric testing weight is given to those aspects of the answers which are little understood by the examinee.

It may be added that no sure tests have yet been developed for leadership. Leadership can only be judged by actual performance. Adequate selection is possible by assessing the past record of the officers. Assessors must, however, be experienced judges of men (not necessarily leaders themselves). Errors in selection are unlikely to occur if there is a panel of assessors. The crucial test is really the battle-field. Unit commanders are selected from those officers who have spent some years in the Armed Forces. This period affords a great opportunity for follow-up and validation of the grading of an officer. It is assumed that the officers considered suitable will be sent for senior officers' training. This period will provide further opportunity to judge the merits of an officer.

¹ Lord Moran, *The Anatomy of Courage*, page 211.

Proper Assignment

Aptitude, trade, qualifications and experience must be carefully studied before an assignment is made. The actual performance is again the best guide for employing an officer in the job assigned. The performance may reveal that he is a misfit. He may prove to be a first class officer in a new assignment.

Capable Instructors

Having selected the officers with required qualities and having assigned them appropriate duties the next problem is of proper instructors. The instructors especially for senior officers' courses should be experts in their subjects. A person becomes an expert not by studying alone but also by actual experience. Soldiering has grown into a rapidly progressive branch of knowledge. The views which were till the other day accepted as standard teaching have become out of date. The outlook of the instructor, therefore, should be wide and able to keep in step with the progress in the science and art of soldiering. The instructors can be drawn from the available officers. It must, however, be realised that knowledge has no national barriers. Especially in technical branches if instructors with requisite qualifications are not available they may be obtained from any country which is prepared to extend a helping hand. Selected officers can also be sent abroad to study methods of instruction in various countries. The time spent in studying abroad will be well worth while in the long run.

The instructors naturally should be thoroughly conversant with the instructional technique. They should be able to present the facts directly and lead to logical conclusions and develop the visual (and even of hearing, smell and touch) and intellectual memory of the students. He should be able not only to teach but to see that lessons taught are executed with speed and efficiency. The instructional technique is as important as the study of the subject itself.

EDUCATION

Education in the Armed Forces is mainly devoted to two sets of subjects—professional and general. The soldier—the man—is the most vital factor. His behaviour and morale are psychological states. Education in leadership therefore requires emphasis on practical knowledge and application of the law of human behaviour. Practical application of psychology and certain aspects of psychiatry do not require study of voluminous text-books. It however does require detailed study of qualities that have been discussed above. Each one of those qualities can be acquired by training and repeated effort. A few examples may illustrate this point. If a person cannot easily decide or hesitates to take responsibility it is usually due to his lack of knowledge. Study of the subject, knowing his job well and taking advice if need be (even from a subordinate) will give him confidence and check his wavering temperament. Courage also can be developed by encouraging hazardous sports, working under conditions where courage is brought into play. (If a person is afraid of drowning let him learn to swim). The actual performance under dangerous conditions, understanding of the cause and management of fear will automatically develop courage. Initiative can be developed by letting the officers work out details themselves. Commanders who do all the work of the unit themselves often fail to train the initiative of junior officers. Introduction of aphorisms like 'when in doubt attack' often aids the initiative of the officers in action. *Esprit de corps* can be fostered by laying emphasis on the history and tradition of the corps or unit, dramatising the functions of the unit, publishing service journals, encouraging mess life and keeping young officers in their units at least long enough for them to develop a sense of comradeship. Mental alertness can be developed not only in exercises but also in sports and competitions. All these require, however, careful

planning : repeated badly planned individual competitions may lead to individual rivalries. Man management, morale and discipline similarly can be mastered once they are studied in their proper perspective.

Having learnt the science of leadership a unit commander has to learn other subjects. The subjects in which an officer should be interested and which a commander should study as a part of his duty are numerous. Organisation and administration of his own unit, professional knowledge of his branch, the part his unit plays in the Armed Forces, strategy and tactics, supporting arms, engineering and preventive medicine, transport maintenance and logistics, gas, psychological and atomic warfare, to mention only some of them, require study amongst others of political science, psychology, sociology, geography, foreign languages, economics, chemistry and physics, especially nuclear physics. It is not suggested that the unit commander must be an expert in every science. It will be asking for the impossible. He must, however, be conversant with all of them and be an expert in those subjects with which he is directly concerned. Even the subjects with which he is directly concerned cover a wide field.

For any Armed Force to be a dynamic and progressive force it is essential to carry out research. Research is vital not only in all technical branches but also in administrative branches. It will be evident that a leader in the Armed Forces should equal, in many cases surpass, those in other professions reputed for knowledge, culture and intellect.

It may be argued that soldiers should be practical and theory therefore should not play an important part in the Armed Forces. Theoretical knowledge, however, is unavoidable and as a matter of fact essential. Every soldier is taught the principles of war. A company commander posts his men during street fighting in a different position to those in jungle warfare. He uses different ways to camouflage his section in desert, jungle and snow covered mountains. Doctors suggest different preventive measures in different theatres of war. The background of each advice and action is the element of theory. Theory really is the basis which makes the task easier. Instead of experimenting the commander adopts a measure which is proved to be correct by experience. Ardant du Picq once wrote that 'only study of the past can give us a sense of reality and show us how the soldier will fight in the future'. Study of history, especially military history, is essential for every successful commander. Napoleon insisted that his officers should 'read and re-read the campaigns of great commanders.' Emphasis in educational schemes should not be laid on frequent written examinations for that would lead to the cramming complex. The main object of any effective educational scheme is to impart knowledge to the maximum number. Field-Marshal Wavell¹ when he had attained General's rank did his best to have written examinations abolished or at least reduced. He quotes an example of an officer who won the D.S.O. and M.C. and finally became a successful Brigade Commander but could not cram and pass a written examination. Huxley² very well sums up the results of cramming for examinations : 'They work to pass, not to know ; and outraged science takes its revenge. They pass and they do not know.'

TRAINING FOR COMBAT

Study and scholarship alone do not win battles without character, toughness and training for combat. There has been a controversy for some time over the subject whether the training of officers should begin with six months' service in the ranks.

¹ Field-Marshal the Earl Wavell, Fifteenth Haldane Memorial Lecture delivered at Birbeck College, University of London, (1948) page 11.

² *Ibid.*

Not a few feel that service in the ranks, suitably varied for those who are relatively more skilled, is on the whole beneficial. This subject, therefore, does require serious consideration.

Training in the administrative side of war is relatively an easy matter. It involves study and desk-work. The tactical side, however, demands hard training in the field. TEWTs and other exercises are held for the purpose. The emphasis during exercises should be laid on re-creating the scene of battle. It cannot be denied that it is impossible to bring in the idea of death. In all other ways the exercises can be made realistic. As General Rich¹ points out, "It is no good, as is often done, dividing an operation area into equal portions and giving each portion to a unit or sub unit. Ground is the key to all tactical considerations. . . . War is not a game and we cannot expect the enemy to abide by the rules we have framed ourselves. We must anticipate that the enemy will do things to thwart our plans before they have been put into execution. . . . We must make a habit of arranging for the enemy to do something." Modern war is of co-ordinated action of various services and often various arms of services. This aspect should be given the importance it deserves. It must also be realised that it is the sub unit, like a platoon in the Army, that bears the main brunt during fighting. Victory or defeat depends on the fighting quality of the sub units. Training of these units consequently is vital in any Armed Force. If we can, therefore, ensure that our officers in their early years in the Armed Forces are trained in the art of successfully handling a sub unit, enduring and successful leadership will result.

SOCIAL, RELIGIOUS AND POLITICAL PROBLEMS

The Armed Forces are essentially the people's forces maintained for internal peace and for defence of the country from external aggression. The Government in a democratic state is duly elected by the people. It consequently follows that irrespective of the fact whether the Government is socialist or republican the Armed Forces owe their allegiance to the Government and through it to the people.

The Armed Forces again are a secular institution with complete freedom of personal religious convictions. Officers and men therefore should be brought up to have one political faith—loyalty to the Government, and one fanaticism—"IZZAT" of the country and the Forces. Any other political or religious alignment is fraught with danger. The value of personal faith in a particular religion as a factor in raising morale, should not be overlooked. It therefore follows that every one should be ensured full liberty and facilities for the practice of his religion.

Social problems are bound to crop up. The unit commander is the principal adviser in a unit. He should not start controversial discussion but should be able to guide and solve the social problems of his men. He should be able to make his men see their social problems in their true perspective. The unit commander should therefore be conversant with civil administrative problems so that he is able to advise his men if and when occasion arises.

ENTHUSIASM

The Armed Forces are a school where training continues all the time. The field of training is not only in the unit but also outside it. The enthusiasm of young leaders is likely to wane if they are left in one job for long periods. There are numerous jobs in a unit itself, e.g. a platoon commander after about 2 to 3 years can learn the duties of Adjutant, Quartermaster, Intelligence Officer or unit education officer. After some time suitable work away from the unit can be easily found.

¹ Major-General H.H. Rich, *The Difficulties of Command in War*, U.S.I. Journal, July 1948, Vol. LXXVIII, No. 332, pages 235-239.

It is well known that zeal and efficiency wanes if no break is given from normal routine. Leave is well deserved and if properly organised can be very valuable. 'Leave Bureaus' have proved of great aid to the growth of leadership. Wardle¹ gives the example of Sir Henry Wilson 'who spent leave exploring what was afterwards to become Western Front and.....an admirable gunner subaltern who spent one leave as a fireman on an Indian Railway and another riding across India without a servant or a groom.' Subjects in which an officer can be encouraged to take interest during leisure cover a wide field from fishing and hiking to learning languages, taking correspondence courses or going to a university for a short time. Officers should be encouraged, particularly in technical services like medical and engineering, to take study leave for specialist training in India and abroad.

It must be added that man management and morale are as important in the case of officers as of other members of the Armed Forces. Unit commanders are affected by worries (social, domestic, financial or the like) as much as any other. Their interests should be zealously safeguarded. Any signs of genuine discontentment in their ranks should be promptly considered. Senior commanders must also take endless pains to teach the young commanders. Defects if noted early can be easily corrected. For example it may be noticed that some cannot speak well the language of their men, others may be weak in man management, still others may neglect field-training and in a few supervision and personal contact with the men may be faulty. The defects should be corrected in a way that there is no damping of enthusiasm.

CRITICISM

Finally a few words may be said on suggestions, discussions and criticism, for they are directly related to progress in every field including training. Any officer who has some new ideas to offer should be encouraged. Informed honest criticism should be welcome. Suggestions and criticism, however, will be forthcoming only when the officers feel confident that no action will be taken directly or indirectly, immediately or at a future date, against them if they adversely comment on prevalent views. As General Toker² puts it:

"We have to remember that whether we are at the top or bottom it is only by rubbing our wits up against the wits of others who hold varying views that we can sharpen them. A man must fear something if he is not prepared in peace time to discuss his opinion on matters of importance with both his superiors and juniors. He has much to gain from what he will hear in the course of discussion."

It is, however, not advocated that informed criticism includes discussing frivolous personal complaints or personal matters which should go through the proper channels. Free discussion, expression of informed opinion and advocating new ideas always help in going forward. Service journals can play an important part in this respect.

CONCLUSION

It will be obvious from the above analysis that a unit commander should have character, personality, a fighting spirit, steely discipline, administrative ability and knowledge of human nature. He should be tough mentally and physically and skilled in his profession. He should possess a zeal for his profession, initiative and common-sense. He should have well-balanced judgment and ability to work out details and see the essential aspects of the problem before him. A spirit of adventure and sense of humour will help a great deal in his difficult task. It may be added that the suitability

¹ Lt. Col. M.K. Wardle, *Foundations of Soldiering*, pages 110-111.

² Lieut-General Sir Francis Toker, *The Pattern of War*, page 7.

of an officer to hold command of a unit can be judged best by the fact that the men acknowledge him as a leader. Performance is the real test of leadership. I may again quote a remark of Field-Marshal Wavell¹ (with slight modifications): "A leader may succeed for sometime in persuading his superiors that he is a good commander. He will never persuade his *men* unless he has the real qualities of one."

Training in leadership starts long before a candidate presents himself for enlistment. A creative educational system and cultural atmosphere are requisites for preparing young men for training in leadership. Careful selection, proper assignment and adequate training are vital for any Armed Force.

The Armed Forces provide the single greatest school for adult education—professional and general—not only for the men but also for officers. Emphasis during education should not be laid on cramming and written examinations but on imbibing real knowledge by the maximum number.

The ultimate object of training is victory in combat. The training for combat should, therefore, be always kept in the forefront. The main brunt in combat is borne by the sub unit and its commander. Emphasis should be laid on the training of the sub unit commander for he forms the very base of the pyramid on the top of which is the Supreme Commander. The training of officers in the ranks for a limited period should be considered from the same point of view.

Qualities of leadership should be always kept in mind and instilled in young officers. These qualities can be acquired by all painstaking young men. As Bacon puts it, 'experience excels science'. Let every officer have battle experience. In peace, duties on the frontiers and police action if any are some of the opportunities which present themselves as training grounds. A many officers, by rotation, should be posted to such duties as possible. One will have, however, to depend mainly on TEWTs and other exercises. They should re-create the events expected in actual combat. TEWTs require a lot of thought and planning of the smallest detail for the smallest unit. The ground, the dispositions, the men and the weapons, the calm and confusion, order and disorder, offensive and defensive action, how to give and bear shocks, our assault and the enemy's counter-blow and the like have all to be worked out in detail. The basic pattern of the fights of tomorrow can be obtained by studying how we fought yesterday. Strategy, tactics and weapons change but not the relation of man to the weapon and combat. Discussions, constructive criticism and research keep the Armed Forces vitalised. Enthusiasm and motivation play a very important part and are the elixir for healthy and efficient Armed Forces. Study of the human mind and application of the laws of human behaviour are essential. Finally it may again be emphasised in the words of Ardant du Picq,² that 'Battle is the final objective of Armies and man is the fundamental instrument in battle. Nothing can wisely be prescribed in an Army—its personnel, organisation, discipline and tactics, things which are connected like the fingers of a hand—without exact knowledge of the fundamental instrument, MAN, and his state of mind, his morale at the instant of combat.'

¹ *Generals and Generalship*, page 19.

² Colonel Ardant du Picq, *Battle Studies*, page 39.

THOUGHTS ON STRATEGY IN OUR TIME*

ADMIRAL SIR GERALD DICKENS, K.C.V.O., C.B., C.M.G.

FOREWORD

IF in this study I have dwelt largely on the application of certain strategic principles to meet the case of our Country and Empire, that is not to say that those principles would only be applicable to ourselves if, once again, we fought alone. They are, I am convinced, equally applicable in the case of the Atlantic Pact countries as a whole; and, indeed, to those who might fight against them. In short, they are universal. It is well to express our views firmly as we seem, in these times, too ready to subordinate our opinions to others and so often, to denigrate our strategic and fighting potentialities. This vast maritime Empire, with its strategic bases in every sea, its great (both in size and quality) Merchant Navy, its genius for maritime strategy, its fighting races from which are drawn unsurpassable soldiers, airmen and sailors, its wealth (only temporarily eclipsed), its productive power, its broad and civilized outlook and its grand traditions, these and many other possessions and attributes make us still one of the great powers of the world, one whose strategic demands deserve the most careful study and attention.

Strategy depends on policy. Therefore, before a strategic plan of campaign can be designed, the statesman must make clear to all concerned the political object he has in mind. Is the war object to be a limited one, *e.g.*, the defeat of an aggressive movement against part of one's territory or that of an ally; or an unlimited one, that is to say the complete subjugation of the enemy country? The statesman will naturally give much thought to the nature of the peace likely to result from the various alternative ways open to his country of waging the war. He will, in the first place, strive for a peace which offers future security to the victors; he will desire the maximum economic compensation for the war effort made by his country and the quickest possible rehabilitation of territories, allied and neutral, and, to a certain extent, enemy, which will have suffered from the blast of war. He will also be pre-occupied with the thought of minimizing the inevitable bitterness engendered in the hearts of the enemy people by the injuries which war brings in its train by restricting such injuries where this does not weaken his country's military effort.

Nations today seem to be at a stage in history where they fatalistically believe that wars between great powers must be total not only in their object but in the manner in which they are fought; that statesmanship is powerless to narrow the issues and that limited destruction is incompatible with the military requirements of today. Whether we shall ever again see wars between nations where the object is a limited one remains for the future to show, but there is enough evidence to make a case for those who hold that the widespread destruction caused by bombing in the late total war was militarily unnecessary and, indeed, that the war could have been more efficiently fought and victory more quickly achieved had air attacks on towns and centres of production not absorbed so much of our war effort. Moreover, the "sweets of victory" would have been much sweeter.

* Reproduced by courtesy of *The Fighting Forces*.

This question has aroused lively controversy in service and other circles, and as the issue must have a decided bearing on our future existence it is as well that the matter be understood and argued in wider circles.

We find, then, in this controversy two extreme schools of thought. On the one hand there is the belief that the principal air effort in war need not as a rule be closely integrated with the land and sea efforts, nor that it should necessarily have as its primary object the destruction of the enemy's armed forces, but that it can usually be better directed against his centres of production and his people generally. Further, that in this form of warfare air power can act, and act decisively (if given the means) without waiting for armies and navies to progress in their particular operations.

Those on the other side in this controversy hold that the enemy's armed forces remain (as the great generals through the ages have always maintained) the more fruitful object of attack; that there is little room for a dual policy and, above all, that until sea power is assured, it is not the best strategy for a great maritime power. They hold that although attack on centres of production and populations are sometimes justified, such attacks must not weaken an integration of all arms against the hostile forces barring the path to victory.

While content to let their case stand or fall on this purely military reasoning these latter protagonists maintain that the methods of warfare advocated by them are also those most likely to meet political and humanitarian requirements. They say that if defeat of the enemy is to be brought about mainly by shattering his towns, factories and people, destruction must be on such a devastating scale that the subsequent peace will not be worth having in that the victors will suffer from the consequences of this widespread desolation almost as much as the vanquished. They support this assertion by pointing to the situation in which we find ourselves today, prophesying that with newer missiles the result of fighting another war on similar lines would be to reduce the world to chaos.

The most telling argument in a controversy of the kind dealt with in this article is the one based on actual experience in war. This we have had in full measure and, as I see it, it shows that we lost more than we gained by trying out a form of strategy, which departed from the Principles of War and which, if suitable for a Continental Power, was by no means so for a maritime one.

What was the result of this policy? On the outbreak of the war there were dangerously few aircraft for the defence of the United Kingdom and there was no serious air defence at our vital strategic bases such as Malta, Singapore, Hong Kong. Our armies, so small in the early stages of the war that they needed all the air support they could get, had very little air support, and in some cases practically none. They suffered accordingly in Belgium, France, Norway, Greece, Crete, etc. But the most serious result was the great gap left in the defence of our sea communications. Not only was potential air reinforcement—every bit of it of inestimable value—held back from the struggle for sea power but in the years leading up to the war the development of a strong Fleet Air Arm was frowned on and Coastal Command, an essential part of our sea fences, was divorced from naval control and in any case was quite inadequate when war came for the work it had to do. It is hardly necessary to say that the part played (as far as it was allowed to be played in the war at sea) by Coastal, Bomber and Fighter Commands was of the highest possible order and of the utmost value.

There are many things in the conduct of the war about which criticism is now supererogatory, but it is most necessary to dwell on these facts as they show two errors in strategy, which if not fully grasped—and even in certain responsible quarters

they have not been fully grasped—may be repeated in a future war. The first error was the failure to provide adequately for the security of our sea communications. We had once again in our history forgotten our absolute dependence on the sea. The second error was that we attempted a dual policy with forces too small to ensure even one satisfactorily. The damage caused to Germany by our bombing in the first two or three years of the war was nothing compared to the damage suffered by ourselves due to the U-boat, aircraft and other forms of attack on our shipping. Our heavy losses in shipping delayed our final offensive by at least a year.

Conceding, for the sake of argument, that bombing an enemy's country is the best form of strategic offensive, we cannot but help seeing that neither that nor any other form of offensive strategy was possible for a considerable period after the war started. Certain vital security measures had first to be taken and, therefore, to disperse our small forces partly on weak and spasmodic defensive measures and partly on a very ineffectual and partial offensive was a strategical error. The error was born in peace time, but it is strange that it lasted into the war when, at an early stage, we were shown very clearly that bombing Germany could not give us the security we needed. Let us see what Mr. Churchill had to say about the transcending need for security at sea. In his famous letter to President Roosevelt in December, 1940, he wrote: "..... The decision for 1941 lies upon the seas. Unless we can establish our ability to feed this Island, to import the munitions of all kinds which we need, unless we can move our armies to the various theatres where Hitler and his confederate Mussolini must be met, and maintain them there, and do all this with the assurance of being able to carry it on till the spirit of the Continental Dictators is broken, we may fall by the way, and the time needed by the United States to complete her defensive preparations may not be forthcoming. It is therefore in shipping and in the power to transport across the oceans, particularly the Atlantic Ocean, that in 1941 the crunch of the whole war will be found....."

Disregarding for a moment the political and economic objection to victory at the cost of the vast destruction caused by broadcast bombing the only plea for this form of offensive, one that might possibly cover defensive requirements, would be in the case where, at the opening of hostilities, we possessed such huge air forces that we might hope to deliver a knock-out blow. Such conditions are, however, hardly likely to arise in our time. Not being an aggressor nation the total of our armed might available at the beginning of a war—even including that of our possible allies—would not be sufficient to obtain this result. The late war showed us that even with the huge air fleets ultimately available the subjection of an enemy by bombing his towns and factories is, at the best, a slow, costly and wasteful process.

"U.S. Strategic Bombing Survey" shows how limited was the effect of this bombing on war production, and books such as "The Second World War," by General Fuller, "Military and Political Consequences of Atomic Energy," by Professor Blacket, are illuminating in this connection. It is a fact that right into the last year of the war Germany produced tanks more powerful than ours, as vast a number of guns, aircraft, munitions, etc., as ever and was also able to turn out such new and dangerous weapons as the V1 and V2 and she led us in jet propelled aircraft. Those who favour all-out bombing make much of Speer's recorded warnings to Hitler in the final phase that the allied bombers were making German resistance impossible. Speer was right, but it will be noted that his anxiety was caused mainly by the destruction of so much petrol—a very proper target for strategic bombing and something quite different to the wasteful and hopeless attempts to blot our factories and towns. Magnificent as was this contribution to the final collapse of Germany it must be obvious that its effectiveness was made possible by the terrific military and economic pressure exerted by the allied armies converging on Germany from East and West, as well, of course, by the cumulative effects of sea power—a matter of

vast significance but one so little recognized. If we fail to pay heed to these lessons and, in a future war, rely on defeating our enemy mainly by bombing his towns and people, we should have to build up such a tremendous "strategic" air force that there would be no money, men and munitions left available for other air forces, navies and armies. Could we take such a risk? Obviously not. It would be gambling, not strategy. It would be even more of a gamble if we took the initiative with the atom bomb. I will return to that in a moment.

If this reasoning is sound and we cannot pull off an immediate victory by strategic bombing we must ensure our security, *i.e.*, the security of our territory and our sea communications. The control of our sea communications must always be vast undertaking in a war with any great nation having access to the sea, even though that nation be one predominantly military and air. It can be assumed that any such nation (we have, of course, Russia in mind at the moment) having designs on us would possess some sort of a navy which would probably include a mass of submarines and numerous minelaying vessels. A navy of this description together with great air and land forces might constitute a very serious threat to our shipping and bases. Now the carrying ship *must* get through as they bring most of our food, practically all the raw materials we need for weapons and munitions, many varieties of finished articles, weapons and other such essentials. They must also transport the armies and much of the air forces of the Empire, and, above all, the oil and petrol without which our fighting and most of our merchant ships cannot steam, our aircraft cannot fly and the Army is frozen by the roadside. In other words, we live by the sea *from day to day* and every interruption in the ebb and flow of our shipping and loss of ships and cargoes will have quick repercussions on our physical and economic life and on every one of our war operations, naval, military or air. The fewer ships and cargoes lost, the quicker can we arm and gather together the forces of the entire Empire and weld them into the mighty offensive weapon we need to finish the job. The greater the security at the start the sooner the combined and crushing offensive. Such an offensive might well have taken place in 1942 had we not lost so much shipping and had we devoted more of our war production to sea security measures and to invasion needs, sea (landing craft), land and air.

Marshal of the Air Lord Tedder says in his book "Air Power in War" that passive defence would be certain and painful suicide, that we must have teeth and that the teeth must be able to bite hard and swiftly. We must all subscribe to that healthy sentiment though we may differ as to what the teeth should chew on. There is a great difference between passive defence and defensive strategy for the latter can and must embody intense offensive action. For instance, in the case of the air where sea power is concerned it would demand constant and vigorous attack on airfields and bases from which enemy aircraft attacked our shipping and ports, on submarines and other warships raiding our sea communications and on enemy shipping. It would also include offensive minelaying, combined attacks with sea and land forces on enemy bases, air-borne invasions of enemy-held areas whence damaging attacks on shipping could be made and, in addition, a continued offensive against such of his land, sea and air lines of communications and his fuel, ammunition and store depots and dumps as served his attacks on territory and sea communications vital to us. Our teeth would have plenty to bite on within the framework of a defensive strategy. Our past wars illustrate this very clearly. When our sea strategy was properly exercised—as was not always the case—offensive action, even when our strategy was broadly a defensive one, was paramount. The first duty of the Fleet was (and is) to seek out and destroy the forces of the enemy threatening trade or territory and *after* that to mop up his trade. Incidentally the control of sea communications automatically denies them to the enemy, thus applying a grip that will eventually choke him. We have also to remember that this control makes it possible for us to strike freely from the sea at various strategic points on the perimeter of the enemy's territory; indeed, it is only from the sea that operations involving the concentration of *all* our arms can be

carried out. But this we must remember: that air forces, just as armies and navies, are merely means to an end. The ultimate end is, of course, the defeat of the enemy, but one of the immediate ends is the control of sea communications without which, unless we take unjustifiable risks, we cannot accomplish this defeat.

But it will be said, very rightly, that command in the air is also one of the immediate ends, one that will be required for purposes additional to the one of assuring our sea communications. The process of obtaining that command must in any case be a gradual one; first local and then general command. There is, however, no inherent reason why these two demands cannot be met simultaneously seeing that the process of wearing down the enemy's air power can be as well put into effect in battles for the dispute of sea communications (and of course also those for the security of vital territory) as in other kinds of air activity. If the enemy fails to grasp the overriding importance to ourselves of sea communications and devotes little of his air effort in that direction so much the better and our main air strength can find other fields where command in the air can be sought.

How about "strategic" bombing after our security has been reasonably secured? Is it not then permissible to conduct a vigorous offensive against the enemy's centres of production and people? Putting aside anxieties about the post-war situation as the result of wide destruction and the moral implications of the indiscriminate slaughter of non-combatants one can only answer that this will depend on circumstances.

Can victory be won more surely, more quickly and in a more satisfactory manner by bombing or by invasion? If the latter, any bombing which weakens the combined effort leading up to the final invasion must obviously be called off. But real strategic bombing, that is bombing which will contribute more directly to the concentrated drive forward must be a most important part of the campaign. The targets would be predominantly military ones. There are always plenty of them, strategical and tactical, as has been indicated above. Military targets are sometimes admittedly difficult to define and there will always be border-line cases, but obviously we would not waste time in trying to find a rigid formula.

The dead set made by the allied air forces, prior to the Normandy invasion, on the railways and bridges in France and on the oil supplies needed by the Germans in the coming struggle was a classic example of strategic bombing at its best. It was a deciding factor. It was part of a definite and combined operation and not merely part of a vague long term and isolated policy of broadcast destruction. All the same it would be absurd to prohibit the bombing of certain production plants of outstanding importance, places that are in a class by themselves. There are, of course, exceptions in this connection as in every other. No hard and fast rule can be laid down. All one can do is, I suggest, to keep the political and military objects clearly in view in every phase of every operation and campaign.

There is another reason, and it would seem a very strong one, why there is not much room for "strategic" bombing of towns on the late war lines. War has always been largely a matter of positions. Is that not still the case? Even if the above type of bombing is to figure in the various ways of bringing pressure to bear on the enemy there must always be the need to improve one's attacking position as it is scarcely possible that the initial jumping-off place, even if good, will remain so under all the changing conditions of war. These new positions in their turn will point to still better ones and thus the jockeying for position becomes a constant movement. Each stage will demand a quota from two or all three of the Services and the participation of the R.A.F. will be essential in all the more important operations. Thus a constant demand will be made on the air, demands on planning, preparation, redisposal of forces, modification of weapons, new types of aircraft and heaven

knows what else for these operations. Could these demands be fully met if on top of this war of movement, and quite detached from it, a bombing offensive on a great scale against centres of production went steadily on?

War is still an art and the artistry lies largely in the perception of the strategical and tactical positions from which the enemy can best be attacked and it also lies in the recognition of the right moment to attack. The ability to attack successfully and at the right moment calls for concentration and mobility.

Surprise is often a governing factor. *These conditions cannot be present unless one's forces are in constant readiness and closely integrated strategically and tactically*—in effect, unless there is one strategically coherent and co-ordinated plan.

THE ATOM BOMB

If both belligerents or groups of belligerents use the atom bomb freely against cities and centres of production we may discard the Principles of War as well as every other sort of principle. The result will be chaos and the victor, if he can be recognized as a victor, will find himself so overwhelmed by economic, social and human problems both at home and in the world he has conquered that he will find victory to have been bought at a price he cannot pay. Such thoughts must be in the minds of the statesmen of those countries liable to become involved in war in the near future and so, although it may be impossible to set up any agreement on international control of atomic power, there is ground for hope that if war came neither side would take the initiative in using this two-edged weapon. We had a striking example of such expediency governing the actions of belligerents in the case of poison gas in the late war.

We may assume that, in any future war, the aggressor nation will be equipped with the atom bomb. We may also assume that we and our allies will be well supplied with these bombs. Should we be the first to use these weapons? Would it pay us? Could we inflict a knock-out blow against a country, say, like Russia?

There are many experts who do not believe this possible. We could undoubtedly inflict terrible damage on the enemy country, but would that compensate for the damage wrought by his missiles in our congested islands? There is a broader aspect of this strategy to be considered. As practically all the European nations would be involved in the struggle we must expect, if atomic warfare did break out, to see these bombs falling all over the Continent. We might find ourselves having to bomb enemy occupied countries and forced to blast the cities of Austria, Hungary, the Balkans, Germany, Scandinavia, the Low Countries, and France. What a picture of desolation should we see—ruin everywhere, half Europe radio active and countless survivors doomed to a lingering death, economic life and indeed civilization shattered.

Whether or not the use of atom bombs, bacterial warfare and other unpleasant means of destruction which we feel the urge to produce is inevitable, sea power remains as important as ever. We fight as a Commonwealth and so, if the United Kingdom becomes seriously weakened due to atomic bombing the centre of effort must be moved to some other part of the Commonwealth. Sea power would enable this to be done. We must get out of our heads that the Navy has been relegated to a secondary position due to the advent of any new weapon so far invented. In any case ships are no more vulnerable to atomic weapons than any other force. They are very mobile and can be scattered and a modern fleet can keep the sea and operate from far more distant bases than was possible before the late war. The anti-war defensive armament of a naval force, artillery and fighter aircraft, is formidable and in Naval Aviation we have not only a spearhead but a trusty shield for the Fleet.

One further comment on this question may not be out of place. There is nothing new in this total war business. It was common enough in ancient times and is, of course, the practice of savage tribes in every period. Pillage, fire, rape and the deliberate massacre of unarmed men, women and children, old and young throughout the land must have been total enough in past wars in all conscience. But as nations became more civilized such orgies came to be frowned upon by generals, statesmen and the ordinary citizen. The general realized that these excesses were not only bad for morale and discipline but that they interrupted, weakened and delayed his concentrations against the enemy's armed forces. The statesmen saw the disadvantages accruing from the bitterness engendered, while the ordinary citizen was moved to protest by his humanitarian feelings. So, while all realized that war was perforce a bloody affair they did what they could to mitigate some of its evils, introducing conventions by which non-combatants were protected as far as possible, wells were not poisoned, prisoners of war were mercifully treated, the Red Cross respected and the rights and safety of neutrals studied. Some of the conventions have broken down from time to time, but such lapses have been followed by general pressure to have them set up again and observed. But now the nations of the world have reverted to the methods of the Goths and Huns. Doubtless there are certain excesses we still do not practise, but it can be justifiably asserted that they are more than made up for by such actions alone as the atomic bombing of Hiroshima and Nagasaki, populous towns of a practically defeated country. We must hope for a new renaissance where, if wars cannot be avoided, statesmen and generals will find no room in their strategy for the promiscuous bludgeoning to which we had recourse in the late war. This is not romantic idealism — for these things pay in the end.

Here again we can listen to Mr. Churchill. Writing in "The Second World War" about the air attacks on our fighter stations in the summer of 1940, he says: "I was led to visit several of these stations, particularly Manston (28th August) and Biggin Hill. . . . They were getting terribly knocked about, and their runways were ruined by craters. It was therefore with a sense of relief that Fighter Command felt the German attack turn on to London on 7th September, and concluded that the enemy had changed his plan. Goering should certainly have persevered against the airfields, on whose organization and combination the whole fighting power of our Air Force at this moment depended. By departing from the classical principles of war, as well as from the hitherto accepted dictates of humanity, he made a foolish mistake".

How true is that last sentence! Let us see therefore that we ourselves, and the nations who comprise the Atlantic Pact, do not depart from those classical principles and accepted dictates of humanity, and that we drop our bombs, atomic or other, accordingly.

THE FUTURE OF AIR BOMBARDMENT*

AIR MARSHAL SIR ROBERT H.M.S. SAUNDBY, K.B.E., C.B., M.C., D.F.C., A.F.C.

I think that I should emphasize, at the start, that the ideas and views set out in this article are my own, and are not necessarily, or even probably, those of the Air Staff today. It is perhaps legitimate to hope that, in thus setting them forth, I may do something to stimulate thought and discussion on subjects which are certain to have a profound effect on the future of our Service.

In my article in the July number of *THE ROYAL AIR FORCE QUARTERLY* we traced the development of bombing in the Allied air forces from its beginning to the dropping of the atomic bombs on the Japanese cities. This event was rightly recognized as a major landmark in the history of air power, but it marks a change not in kind but in degree. As I said, the effect is to make one aeroplane capable of the destruction caused by a successful attack by some 500 Lancasters in 1945. But the weapon is still a bomb, dropped from an aircraft of conventional type, operated by a human crew.

There were, however, two developments, initiated by Germany, which are bound to have a far-reaching effect on the future of air bombardment. When the Germans realized that the growing weight of Allied strategic bombing would spell defeat for them if they were unable to master it, they determined to convert practically the whole of their aircraft industry to the production of defensive fighters. The German generals, however, knew their business, and they must have felt very uneasy indeed at the prospect of having to abandon the offensive in the air. They could not fail to know that such a policy could only postpone defeat, not avert it.

Fortunately for them, two lines of scientific development offered a possible solution to their problem. One was the flying bomb, and the other the heavy rocket. Neither of these weapons required high-performance aero engines of conventional design, and neither would compete in any serious way with the resources they wished to devote to defensive aircraft. It is small wonder that they seized eagerly upon these inventions, their notorious "secret weapons", and decided to rely upon them almost completely for the conduct of an air offensive against this country.

Their plans were well laid and far-reaching. They began to build enormous structures in Belgium and the Pas de Calais, protected by reinforced concrete many metres in thickness, in which they intended to assemble and prepare the "V" weapons, and from which they meant to launch them. They planned for a huge scale of attack; some 500 flying bombs and 200 heavy rockets were to be launched daily against London and other objectives in South-East England.

Our Intelligence Service got early information of this project, and our heavy bombers, by now capable of a high degree of penetration and accuracy over enemy territory, successfully struck at the great experimental station at Peenemunde, where the development work was being carried out, at the factories where the weapons were being made, and destroyed the great concrete structures in which they were to be assembled and launched. The success of this counter-offensive caused the enemy to abandon his large-scale plans and rely on small launching sites, camouflaged in woods, etc., and to use natural caves, normally used for the excellent purpose of

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growing mushrooms, for the storage and assembly of the weapons. This immediately reduced the threat to about one-third of its former dimensions, while a perpetual attack on the launching sites by Bomber Command and the Tactical Air Forces, and the smashing in of the caves by heavy bombers, still further reduced the scale of attack. In the event, it averaged no more than about one-tenth of the planned figures, and declined from being a dangerous threat to a serious nuisance.

Nevertheless, the attack could not be entirely stopped until the advance of the Allied armies had placed the launching sites out of range of this country.

The defeat of these "V" weapons should not, however, be misunderstood. They were defeated because they were introduced, incompletely developed and in insufficient numbers, to a situation dominated, at that time, by the heavy bombers. It is as though, as a desperate measure and at the eleventh hour, a few musketeers with brand-new weapons had been introduced by the French to the field at Crecy or Agincourt, a field dominated, at the time, by the longbowmen of England. The unhappy musketeers would have been shot through with arrows before they had a chance to affect the decision; but that is not to say that the musket, in its turn, when fully developed and when its potentialities were properly understood, would not replace the longbow in battle.

There is one other significant development, of which we must take notice. That is the development of rockets carried in aircraft, or other vehicles, capable of propelling, with a high degree of velocity and accuracy, an explosive charge equal to that of a large shell. So light is the equipment that a Hurricane was able to carry eight such rockets, propelling charges with a striking force roughly equal to the broadside of a 10,000-ton 8-inch-gun cruiser.

Thus we have four quite distinct and very important lines of future development: the flying bomb, the heavy rocket, the light rocket, and the atomic bomb. I propose to consider a little more closely the probable future trend of these four weapons, and the purposes for which, as I see it, they are likely to be used.

The flying bomb, as developed by the Germans up to the end of the last war suffered from two major defects. First, it was too slow, and so could be caught and destroyed by our fastest fighters. This defect could be remedied by using a more powerful propulsive agent, to be paid for by increased size and weight of the weapon, or by reduced range. Secondly, it depended on a pre-set mechanism to cause it to dive to earth and explode on contact, which rendered it inaccurate at long range. In fact, less than 50 per cent could be relied on, even if not interfered with in any way, to fall within a circle of two and a half miles' radius from the desired point of impact, at a range of 120 miles. No doubt such a mechanism is susceptible of improvement, but it must always be liable to considerable error owing to the difficulty of forecasting wind speeds, etc., along the route. The magnitude of the error will, generally speaking, be proportional to the range. In this it differs in a marked way from the humanly controlled bomber, the accuracy of which in general is dependent on many factors, of which range is by no means the most important. There seem to be two possible methods of eventually overcoming this defect. The missile can be guided from radar ground stations, much as was "Oboe" bombing in the last war, or the missiles themselves can be made to "home" on to the target. The first method is likely to be accurate, but, like "Oboe", it is limited to a maximum range of some 350 to 400 miles, depending on the altitude of the missile, and only one missile at a time can be handled by a pair of ground stations. Thus, both the range and the density of the attack are sharply restricted. "Homing" presents considerable difficulties, owing to the problem of identifying the target. One factory, or one built-up area, is very like another, and I doubt whether it will be possible for a long time to produce a device which will enable a flying bomb to select and

"home" on to a land target. At sea, however, circumstances seem to me to be very different, and I think that "homing" on to a ship should be comparatively easy. I can imagine a flying bomb being dispatched in the known direction of an enemy ship—a great mass of metal floating on the sea—and when arriving within, say, ten miles of its objective the "homing" apparatus would come into play. The missile would be guided towards the ship, and an auxiliary rocket motor started, so that the missile would achieve a high enough velocity to ensure penetration.

Such weapons, against which all surface ships would be almost helpless, would make it impossible for warships or merchant ships of any size to approach within, say, 150 miles of enemy territory by day or night.

I think, therefore, that flying bombs are likely to be used for short-range attack of land objectives under "Oboe" or some similar control, or against shipping. Their effect, if a suitable "homing" device can be developed, on the exercise of sea power should be very great, and it is probable that all war vessels will have to be made submersible.

The heavy rocket of German "V" weapon type has a maximum range of about 200 miles. To achieve this it attains during its trajectory an altitude of some fifty miles above the earth's surface, and a peak velocity of some 4,000 miles an hour. The German rocket had a total weight of about 14 tons, of which 1,500 lb. was the explosive charge, and about 10 tons the weight of the fuel. This fuel, consisting of liquid oxygen and alcohol, had to be pumped through the burners in less than a minute. The accuracy of the weapon was about the same as that of the flying bomb at comparable ranges.

The main characteristics of this weapon were therefore limited range, indifferent accuracy, approach at supersonic speeds allowing of little or no warning, small explosive charge and a high rate of consumption of expensive fuels.

It is difficult to see how its accuracy can be substantially improved. Nor can its range be much increased without resorting to a two-stage process, vastly increasing the size, weight and fuel consumption.

It would appear, therefore, that these rockets are suitable only for the attack of large targets, such as an industrial city, lying within 200 miles' range of the launching site. It will be interesting to see if the inherent disadvantages of this weapon can be overcome.

The light rocket appears to me to be a most important development, likely to have very far-reaching consequences. For aircraft, which can use them at short range, I think that they will eventually replace the gun for all purposes. As regards sea and land warfare, I am less certain; but I believe that they will prove to be a lighter, cheaper and more formidable weapon than the gun for most purposes. They are excellently suited for providing covering fire for an assault, and for laying down concentrations of fire to slow down and break up an attack. They are ideal for close-range anti-tank work, and it is possible that they will largely replace the anti-aircraft gun, especially if a rocket-driven weapon capable of "homing" on to an aircraft can be devised.

The saving, compared to a gun, in manufacturing cost, weight, ease of transportation, economy in high-grade steels and other metals is most striking. In fact, now that we have them, they seem so simple and obvious that one feels surprised that they have been so long in arriving.

As an offensive weapon for tactical air forces the light rocket is, for many purposes, superior to the bomb. For the destruction of locomotives and rolling

stock, motor transport, shipping, especially the smaller and more mobile vessels, and aircraft on the ground, the rockets are much more accurate and easier to operate than bombs, and they are fully as effective. In my view, the light rocket has enormously increased the power and effectiveness of tactical air forces.

And now we come to the atomic bomb. This is a weapon of some considerable weight but of enormous destructive power. It is probable that one bomb, detonated at the optimum altitude, could devastate an area of about one square mile. In addition, it would affect by flash-burn and by radio-active poisoning all who are exposed to it within a considerable radius from the explosion.

The bomb depends for its explosive effect on a fissionable material, produced from uranium ore. The production of this material, even when the process has been commercialized, requires a tremendous effort in terms of money and manpower, though probably not much greater than that required to produce its equivalent in destructive effect in conventional bombs charged with a modern high explosive. But this certainly means that atomic bombs will be precious, that no nation will have plenty of them, and that they will be carefully used, after serious consideration, against those targets which are judged to be the most vital and suitable.

The American tests at Bikini Atoll provided much valuable data as to radio-activity and blast effect, and the possibilities of decontamination. But I cannot believe that it is probable that any nation will drop atomic bombs on fleet anchorages. In fact, I will go farther and say that in an era of atomic warfare there will not be any fleet anchorages as such. The job of our Navy will be almost entirely convoy escort and anti-submarine work, requiring a large number of small ships dispersed all over the seven seas.

Important ports, vital industrial areas, and possibly centres of government and communications, will be the most probable targets for atomic bombs. The defence of such places, therefore, will be a task of the first importance. To destroy, deflect or reduce the attack would be the primary object of our active defence. For various reasons, among which is the need for great accuracy, I believe that the atomic bomb is likely to be delivered by aircraft operated by a human crew, equipped with the latest radar navigational and bombing aids.

The potential threat is so great that we must harness all available scientific knowledge and research to the task of improving our air defence. But some attacks are certain to succeed, and we must organize an effective civil defence to minimize the disaster if it should come. There is very much to be done in this direction. The appalling death roll in the Japanese cities was largely due to the fact that no air-raid precautions were in force. At Hiroshima the streets were thronged with people who supposed that the two American aircraft high overhead were engaged in photographic reconnaissance. No warning was sounded, and no one took cover. It has been calculated that protection such as London possessed by the end of the last war and ten minutes' warning, would have reduced the death roll from 70,000 to about 7,000. So it is a very serious mistake to think that, because the destructive power of the bomb is so great, no shelter and no precautions are of avail. The reverse is true. The killing power of the bomb against unprotected people in the open is tremendous, but quite a small degree of protection secures immunity from flash-burn and radio-active poisoning, except for those very close to the point directly beneath the explosion. Next to that, the provision of properly equipped rescue squads for the purpose of freeing people trapped under collapsed buildings, will be a big factor in saving life.

To sum up, I believe that atomic bombs are likely to be used in a carefully worked-out plan, calculated to destroy at the outset the war potential

of an enemy, and to bring about the collapse of civil administration. If the attack should fail, the supply of atomic bombs is not likely to be sufficient to permit of its being repeated, except after a long interval measured, perhaps, in years.

What all this amounts to is that air bombardment with atom bombs, flying bombs and rockets is now capable of such far-reaching effects that an aggressor, especially against a country such as ours, is almost certain to attempt a knock-out blow from the air. London is an obvious target for such an attack, particularly if an aggressor can obtain control of the Low Countries and the Pas de Calais, enabling him to use flying bombs and rockets. Only if such an attack should fail will the safeguarding of our sea communications or overseas bases have any significance. Therefore, although navies and armies are not rendered obsolete by the developments in air bombardment, they will not come seriously into action in their own spheres until the first clash in the air is over. Indeed, land and sea forces will tend to be drawn, directly and indirectly, into the support of the air battle in every way open to them.

Once this battle is decided, the first phase will be over. If the blow has failed it will then be necessary to plan the second phase, which must culminate in victory. The plan will, of course, depend upon the circumstances but the offensive in the air must be developed first. It is only when the enemy is beaten and thrown on to the defensive in the air that we can hope to take the offensive by land and sea.

This, then, is the future as I see it. On the Air Force and on its ancillary services will depend the defeat of the enemy's all-out air attacks, aimed at paralysing us at the outset. On it also will depend the development of a successful air offensive, which alone can open the way for the joint air, land and sea offensive that will lead to victory.

This is no small responsibility for the junior of the three fighting Services. There is, however, no escape from it, and it must be fully recognized both by those serving in the Royal Air Force and by those outside it. For thus, and thus alone, can we hope to ward off the blow if it should be struck, and bring about the conditions that will enable us to regain the offensive.

It will be "Per ardua ad astra" indeed.

CAMPAIGN DIGESTS

COLONEL D.K. PALIT

III—THE MEDITERRANEAN THEATRE, 1940-41

BRITAIN'S FOOTHOLD IN THE MIDDLE SEA

THROUGHOUT the history of the Western and Middle-Eastern civilizations, the Mediterranean has been an important centre of commercial activity and strategic planning. The Empires of Egypt and Carthage, Greece and Rome, and finally of the Ottoman Turks, have regarded it in turn as their sea of destiny, and have shed much blood to gain control of its shores. Every would-be conqueror in European history has had his eye on this Middle Sea. To Napoleon and Kaiser Wilhelm II, with their ambitions of Oriental conquest, the Mediterranean was the gateway to the subjugation of the Eurasian continent.

The capture of Gibraltar in 1704, the acquisition of Malta under the Treaty of Paris in 1814, and the opening of the Suez Canal, are the three most important factors which eventually placed Britain in so important a position on the Mediterranean map. Later developments which strengthened her position were her contracted friendship with France, her influence on Egypt, and the Palestinian Mandate after the first World War. By the time the Nazis had embarked upon their struggle for world domination, Britain had already made herself secure, both geographically and politically, on the Mediterranean front for many years.

During the first period of the Second World War, the Mediterranean was a quiet area. The Italian Navy was not a powerful adversary, and the British had based at Alexandria a reasonably strong fleet consisting of battleships, destroyers, light cruisers and submarines. The French Fleet, based at Toulon, Oran and Bizerta, was responsible for the Western Mediterranean. The only difference that the presence of Italy made was that Malta had to be abandoned as an important strategical base because of the danger of air attack from the Italian mainland, if Italy declared for the Axis.

A large mixed force, known as the Army of the Middle East, had been concentrated under General Weygand in Syria. Australian and New Zealand troops were stationed in Palestine. The British and Imperial Forces, together with all those Allied troops, were placed under the command of General Wavell in Cairo. These troops were at that time a strategic reserve, their main objects being to prevent a German advance eastwards through the Balkans, and to act as an offensive threat against Libya in the event of Italy declaring war against the Allies. Marshal Graziani's troops in Libya were contained by the French Imperial troops in Algeria, Tunis and Morocco.

The political situation around the Mediterranean shores, at this stage, was interesting. Under the Egyptian Treaty, Britain was empowered to use Egyptian territory and ports in order to defend the Canal Zone, but Egyptian forces could not be used unless Egyptian territory were invaded. Turkey was under treaty obligation to join the Allies if Italy declared war; but there was one saving clause in this treaty—that if Turkey were threatened with war against Russia, she could remain neutral.

The Balkan situation was more complex. The Allies had guaranteed support to Poland, Rumania and Greece in the case of Axis invasion; but Bulgaria was a very

dissatisfied state having lost much of her territories after the First World War for having joined the Central Powers. The Serbs were always a doubtful element but could have been influenced to declare themselves for the Allied cause. Unfortunately, British diplomacy completely failed in this sphere. The Germans on the other hand had made full use of their propaganda, and had supplied much machinery and industrial plants to the Balkan States in the years preceding hostilities. She had even sold arms and munitions to Yugoslavia in an effort to enlist her sympathies.

The case of Syria was another instance of the failure of Allied diplomacy. Syria was held by France under mandate from the League of Nations. It was a country of great strategical importance to Britain, as can be seen by a glance at the map of the Mediterranean. When Britain had shed her mandate in Iraq, replacing it by a twenty-five years' treaty with an independent government, the growing nationalist elements in Syria had been favourably impressed. If after the fall of France, an attempt to win over Syria with promises of self-government had been made with the help of Turkey, Syrian territory could have been occupied by British forces without a fight. Bold policy and action were lacking, with the result that Syria was left alone, a thorn in the side of Allied defence strategy.

The turning-point in Mediterranean strategy came with the collapse of Metropolitan France. Italy declared war on the Allies on 10 June 1940, and Marshal Petain sued for peace on the 17th. The main effects of these events were :—

- (a) The strategical centre of the war as a whole, which had been focussed on French territory during two world wars, now moved to the Mediterranean.
- (b) Malta was now directly threatened.
- (c) The Italian Navy was thrown in with the Germans. By this time also, two super-Dreadnought battleships, the "Vittoria Veneto" and the "Littoria", had been completed, and had added much to the strength of the Italian Navy.
- (d) The French Empires of Morocco, Algeria and Tunis declared for the Vichy Government. This relieved Marshal Graziani of responsibility to the West of Libya, giving him freedom to concentrate on the canal offensive.
- (e) French Somaliland also went over to Vichy France, thus creating a gap in the Anglo-French defences East of Egypt. The direct effect of this was that the forces in Italian East Africa were able to overrun British Somaliland.
- (f) The French Forces in Syria declared for the Vichy Government, causing General Wavell to maintain a large containing force in North Palestine.
- (g) Perhaps the most serious effect of the French capitulation was the ensuing uncertainty of the French Navy.

The two old battleships of the French Navy, the "Courbet" and the "Paris" and a number of destroyers, submarines and smaller craft, had declared for De Gaulle and escaped to British ports. The vast majority of the Fleet, however, remained in a state of uncertainty. When Marshal Petain had negotiated the capitulation terms with Germany, he had promised Britain that the French Fleet would not be handed over, and had even undertaken to send to Britain all the French men-of-war in French Metropolitan waters; leaving only a small proportion for the defence of her colonial territories.

The main body of the French navy was concentrated at the French naval base of Oran in North Africa. On 3 July, the British Admiralty placed a demand before the French Naval Commander at Oran, Admiral Gensoul, the main points of which were :—

- (a) that the French Naval Ships at Oran should sail with the Royal Navy and continue the fight against the Axis Powers ;
- (b) failing that, they should proceed with reduced crews to a British port, the crews being guaranteed eventual repatriation ;
- (c) the third alternative was that if it was felt that the French Navy should not be used against the Germans after Petain's armistice, the ships should be sent to some West Indies port, there to be demilitarised or entrusted to the USA ;
- (d) if none of the above were acceptable, the Royal Navy would have no alternative but to sink the French Fleet at Oran within 6 hours of the deliverance of the ultimatum, in order to prevent it from falling into German or Italian hands.

The negotiations produced no results. The Western Mediterranean Squadron, under Admiral Somerville, arrived off the Port of Oran in the afternoon and opened fire on the French Fleet. This was followed by an air attack by the Fleet Air Arm. The principal battleships were accounted for. The only one to escape was the "Strasbourg", which eventually limped into Toulon in a damaged condition.

ITALIAN OFFENSIVE

Although Italy had joined the war as an Axis partner of Germany, she had in fact little more status than that of a satellite. Hitler did not consult Mussolini for any of his plans, and went so far as to negotiate for French co-operation at the expense of Italian gains in that country. Mussolini knew that whatever might be Hitler's promises to Italy, he stood to gain nothing from the Nazis if they won the war. He therefore set about trying to carve out bits of territory for himself around the shores of the Mediterranean, territory which could be gained without serious opposition. His eyes were mainly focussed upon Gibraltar, Egypt and the Canal Zone, and the Mediterranean islands still in Allied hands.

His first act of hostility was an air offensive against Malta. Italian aircraft based on Sicilian airfields concentrated on Malta with the intention of reducing the resistance of that island till she could no longer hold out. It was assumed that once the offensive had started it would be difficult to send supplies, and Malta would have to starve or surrender. The island, however, held out heroically, and when it was possible to reinforce her air force with a few Hurricane squadrons from Britain there was no longer any fear of surrender. The main reason why Italy failed in her intention, however, was that the Italian Navy decided not to accept open battle with the Royal Navy and failed to join in the siege of Malta.

Italy's next undertaking was the offensive against Egypt. For this the conditions were very favourable. There was also a considerable garrison stationed in Italian East Africa, and it was the intention to make a double drive for Egypt—an offensive Eastwards from Libya, combined with a thrust towards Khartoum from Eritrea.

The total forces under Wavell's command at this time numbered some 36,000. Of these, only about 30,000 were available for the Libyan front. The British strength was therefore about one-tenth that of the Italians ; in equipment, the proportion was even less. Reinforcements were also not expected to arrive in the near

future, and it was with grave misgivings that the Imperial Army in the Egyptian deserts watched for the mounting of the Italian offensive. Fortunately, one of the few British mechanized and armoured divisions, well-trained in desert warfare, was with the Army of the Nile under Wavell's command.

Marshal Graziani's chief mistake was made right at the beginning, in not striking at once after the East African successes. Instead of doing this, he lost valuable time in waiting for more divisions to be brought up from Tripolitania. General Wavell, on the other hand, began a number of surprise raids into Italian territory to harass their preparations. This still further delayed the Italian offensive, and won valuable time for the Army of the Nile. Welcome additions in the way of Free French and Polish troops from Palestine and Syria were able to arrive before the Italian offensive started.

The topography of the country needs but scant description. A good metalled road runs all along the coast of North Africa from the borders of Tunisia to Egypt. The railway from Alexandria which runs parallel to the road ends at Mersa Matruh. The road between Mersa Matruh and Egypt passes through a coastal plain about twenty miles wide. This belt is fairly well supplied with water, but difficult country for cross-country travelling. Twenty-five miles to the south rises the Great Libyan Plateau of flat lime-stone desert, practicable for motor traffic but lacking in water. From south of Sidi Barani the desert plateau falls back in an arc which ends up again near the sea at Sollum.

From Mersa Matruh a track runs south to the Oasis of Siwa. West of Siwa is the famous Qattara depression of salt marshes and shifting sand dunes. The Great Libyan Plateau ends in an almost north-south line running from Sollum to just west of Siwa.

On 13 September began the first large-scale advance of the Italian Army from Libya. The tactics of the advance merit some credit. Small groups of light and medium tanks would go forward at tank speed with lorry-borne artillery. At the first signs of resistance the artillery would be unloaded and sent into action, co-ordinated with close co-operation of light bombers. The width of the front was quite large when the attack first started but later narrowed down to the coastal road.

They took the small coastal town of Sollum, just across the border, and advanced towards Sidi Barani. Actually, one mixed division of tanks and infantry is reported to have formed the main body of the attack. The British forces which opposed it unfortunately were even smaller, and they were content to carry out harassing and delaying tactics only. Sidi Barani fell on the 17th, but instead of exploiting their success the Italians proceeded to settle down there and start constructing defences. Graziani had no intention of crossing the 70 miles stretch of desert which separated him from the British fortifications and stronghold of Mersa Matruh, without first building up a good administrative dump. He therefore contented himself with staying on in Sidi Barani for the next three months, and building a pipe-line from his base to Sidi Barani. He perhaps did have the intention of advancing further when he felt secure in his administration, but the inspiration never came.

Not willing to try his troops too much against the Imperial forces under Wavell, Mussolini next turned his attention towards Greece. He charged the Greeks with giving aid to the British fleet in the Mediterranean, and accused them of organising raids across the Albanian border. On 28 October, he delivered an ultimatum to Greece, demanding right of entry of Italian troops to Greek territory and the cession of certain strategic points, which were to be handed over to Albania. General Metaxas, the Grecian Prime Minister, rejected the ultimatum and appealed to Britain for help. Within two hours the invasion of Greece had started, but even

those two hours had lost for the Italian Army much of the military value of surprise. The Greek Army was given sufficient notice not to be caught unawares.

The Italians had amassed a large army in Albania, some 200,000 well-equipped troops, with the additional advantage of complete superiority in the air and on the Adriatic Sea. The Greek forces which could be spared to oppose this offensive consisted of only 8 or 10 divisions, numbering about 135,000 troops. The Greek soldiers, however, fought heroically under the gallant leadership of General Papagos their Commander-in-Chief, who emerged from these battles with a military reputation of the highest order.

It is interesting to note that Germany showed no interest in the affair at this stage and in fact did not even bother to break off diplomatic relations with Greece.

The first objective of the Italians was Salonica. They opened the campaign cautiously, and two light thrusts were made—one in the direction of Salonica, and the other south-eastwards, in the general direction of Athens. Neither showed any sign of a determined offensive. The Italians probably expected the Greek Army to collapse without a fight, and were hoping for a bloodless victory. When the expected capitulation did not materialise, the bulk of the invading force was directed southwards towards the important town of Yamina. The Italian Navy co-operated in this advance by supplying the land forces from the coast as they advanced southwards in Epirus.

The Greeks, ably led by Papagos, soon got the better of the Italians. The advance was checked on all fronts. The Italians were out-fought and out-maneuvred in all sectors, and by the beginning of November the Southern thrust had ended in disaster. The Italians found their mechanized elements tied down to roads in the valleys, whereas the Greek mountaineer troops took possession of all the commanding heights in the area of operations. The Greeks were thus able to strike blow after blow at the moving flanks of long-strung-out columns of Italian mechanized troops. Avoiding frontal attacks, they adopted the typical tactics of mountain guerillas, and by 10 November had routed a complete Alpini division.

Going on from the defensive to the offensive, the Greek Army continued with its mountain warfare tactics. Avoiding the roads and valleys below, the Greek troops attacked from height to height, ridge to ridge, infiltrating far behind the enemy's retreating columns. Slowly but relentlessly they forced the Italians back till they crossed the Albanian border themselves and occupied nearly the whole of Southern Albania.

On the Northern Front also, the Italians were gradually driven back. Koritza, in Albanian territory, was captured by the Greeks on 22 November, and by the end of the month 4 Italian divisions had been routed, their arms and equipment captured. Not one invader remained in Greek territory, except as prisoner-of-war.

The Italian offensive in the Middle Sea was over.

BRITANNIA RULES THE WAVES

The Italian strategy of avoiding open battle against the Royal Navy did not save them from eventual losses. From the very beginning British ships sought out Italian men-of-war in all corners of the Mediterranean, and forced them to fight. First blood was drawn as early as June 27, when the destroyer "Espero" was sunk. Two more destroyers were added to the list of Italian losses on 10 July, and on the 19th HMAS "Sydney" of the Australian Navy sank the first Italian cruiser, the "Bartolomea Colleoni" off the north-west coast of Crete.

For the next two months, however, the Italian Navy succeeded in their avoiding tactics, and the only warship which fell prey to the Royal Navy during this period was the "Artigliere" on 11 October.

At this stage the RAF started their air attacks on the Italian mainland, their bombers operating from bases in Britain. In spite of the great difficulties encountered in crossing the Alps in the early winter, the raids were highly successful—Milan, Turin, Naples, Maritzā, Calato, and the aerodromes in the Dodecanese Islands being bombed in turn.

The real beginning of the collapse of Italian Naval power came in November, and with it came increased activity on the part of the British Mediterranean Fleet, not only in patrolling the seas but also in giving both direct and indirect support to the land battles fought by Wavell's Army of the Nile. The command of the seas was complete.

On the night of 9 November, a detachment of the Mediterranean Squadron approached the coast near Sidi Barani, (two days after it had fallen to Graziani's forces) and carried out a heavy bombardment. Two days later a small force of destroyers carried out a daring raid in the Adriatic, and succeeded in sinking a whole convoy of Italian transports and damaged one destroyer. No hits were scored on the British ships.

On the night of 11 November, Swordfish bombers of the Fleet Air Arm, operating from the new aircraft carrier "Formidable", scored the Navy's greatest success to-date, by carrying out a massed moonlight air-attack on the main Italian Fleet anchored in Taranto harbour. Three out of Italy's total of six battleships were sunk, and two cruisers put out of action. Several other smaller craft were also hit. Only two aircraft of the Fleet Air Arm failed to return. On 27 November, the Italian Navy received another severe mauling at the hands of Somerville's Western Mediterranean Squadron, operating from Gibraltar. When patrolling the coast of Sardinia, it sighted an Italian fleet consisting of two battleships and a large number of destroyers and cruisers. The cruisers tried hard to avoid a fight, by dispersing and withdrawing under copious smoke-screens, but the British Fleet gave chase firing from long range. They could not get to grips with the battleships, because the smaller ships of the British force were outranged by the guns of the battleships. Of the others, one cruiser was set alight and one destroyer damaged before the British ships gave up the chase. The aircraft of the Fleet Air Arm then took up the battle, operating from the "Ark Royal". They attacked the Italians with torpedoes, and before the action was over, one battleship was hit and two cruisers badly damaged. The enemy replied by sending their dive-bombers to attack the "Ark Royal" but they were successfully warded off by the Fleet Air Arm.

Although the action was disappointing, in that the Italians gave no battle, this was the last occasion that the Italian Navy took to sea in any strength. The air attack on Taranto had already so crippled it, that after the Sardinian battle they had neither the strength nor the heart to go sailing the open seas again. British naval activities proceeded uninterrupted. In the advance of the Army of the Nile, British warships were able to support combined operations not only by bombarding enemy positions all along the 700 mile coastal stretch from Sidi Barani to Tripoli, but also by relieving pressure on land communications by landing troops and supplies, and evacuating Italian prisoners-of-war.

The first appearance of the Luftwaffe in support of Italian strategy on the Mediterranean was made in January. On 10 January a large convoy carrying important war materials to Greece was passing through the Central Mediterranean. Both the Eastern and Western Mediterranean Squadrons

GENERAL MAP OF THE MEDITERRANEAN

SCALE 1 INCH = 240 MILES (APPROX.)



were deployed for its protection. At dawn two Italian destroyers were sighted, a most unusual occurrence, and one was promptly sunk. At midday formations of German dive-bombers appeared and attacked the British ships. In spite of a tremendous anti-aircraft barrage put up from our warships, the German aircraft continued to press home the attack. They suffered heavy casualties, but not before they had damaged the aircraft carrier "Illustrious", and set on fire one destroyer. The "Illustrious" managed to reach Malta, but it was several months before she was in commission again. Between 12 and 16 January 1941, a large scale naval bombardment of Genoa proved most successful, the Fleet Air Arm co-operating with the Navy in the task. Later in the month, a successful raid was carried out on the island of Casteloritzo, a seaplane base in the Dodecanese. On this occasion, a landing was made and the island temporarily occupied to complete its destruction.

The greatest blow against the Italian Navy was delivered at the Battle of Cape Matapan, at the end of March. In this action, Admiral Cunningham's Eastern Mediterranean Squadron, with three battleships, one aircraft carrier, four cruisers and a flotilla of destroyers, inflicted heavy losses on a superior Italian Fleet consisting of three battleships, eleven cruisers and fourteen destroyers. Admiral Cunningham's Fleet suffered no damage or casualties whatever, in spite of repeated attempts by German and Italian dive-bombers to attack the British men-of-war. The victory at Matapan was as complete as it was astounding, and finally saw the collapse of Italian sea power in the Mediterranean.

WAVELL ATTACKS LIBYA

After the consolidation in Sidi Barani, Graziani disposed his troops as follows; two divisions, one of them Colonial, were deployed around Sidi Barani, charged with the task of the defence of the city. A force of two divisions was detailed for the task of protection of the lines of communication, and was deployed between Fort Capuzzo and Halfaya. A mechanized division was concentrated to the south of Sidi Barani, and there were three divisions in reserve behind Bardia. The total front-line forces forward of Tobruk were in the region of 95,000 troops.

The highly mechanized invading British Army was under the command of Major-General O'Connor. General Wilson commanded the Army of the Nile under the Commander-in-Chief in the Middle East, General Wavell. The invading forces totalled merely 40,000 troops, for General Wavell had to maintain a substantial covering force in Palestine after the collapse of France, in order to keep a watch against Vichy troops in Syria. To add to his anxieties, the Italian forces in Ethiopia under the Duke of Aosta were a constant threat to the Sudan, the backdoor to Egypt.

The British counter-attack on the Libyan front began with a series of air raids by the RAF on the coastal towns held strongly by the enemy—Sidi Barani, Derna, Sollum, Bardia and Benghazi. On 8 December, the Royal Navy carried out heavy bombardments from the sea against Sidi Barani and Sollum. The command of the sea and air was entirely with the British, and was so maintained during all the operations.

The attacking force set out from Mersa Matruh on 7 December, along the road that passes through the coastal belt. It moved by night, all vehicles being camouflaged in the desert by day-time. It was thus able to close in to the Italian positions without being detected, and the attack was a complete surprise.

The attacking force swung left on nearing the Italian encampments, the plan being to capture the southernmost position, Fort Debeiva, where the mechanized division was concentrated, and then work up northwards.

O'Connor struck at Fort Debeiva on 9 December, and captured the stronghold almost without a fight. The battle lasted only a few hours, and after the Italian General had been killed, the garrison surrendered. Most of the tanks and other vehicles were captured before they could even come into action.

The infantry then started attacking northwards, whilst British tank columns circled the thirty-mile encampment round Sidi Barani, and struck in the rear in the vicinity of Bug-Bug. Sidi Barani itself was captured on the afternoon of the 11th after a frontal assault with the bayonet. The result was disastrous for the Italians. Of the five Italian divisions in the Sidi Barani area, only one escaped entire. The whole of the munitions dump, and stores and equipment which were being collected for the projected Italian offensive in Egypt, fell into British hands. They included over a hundred medium and field guns, many hundreds of motor vehicles, including tanks and armoured cars. The prisoners totalled over 45,000 including three generals.

The Libyan escarpment, which runs parallel to the sea about thirty miles south of the coastline, narrows down near Sollum and offers only two narrow gorges through which the Italians could escape. O'Connor brought naval and air forces to cover this gap with fire, and the retreating Italians, caught in this fire while attempting to climb up these gorges, soon gave up the attempt and capitulated. Fort Capuzzo surrendered on 16 December, by which date British tank columns were again rushing towards Tobruk in a southerly arc in an attempt to cut off the troops at Bardia.

During 13 and 14 December, Bardia was continuously bombed from the air and shelled from the sea. The defences of Bardia were very strong and its garrison was the only one which fought stubbornly during the whole of the campaign. The British attacking troops were numerically vastly inferior to this garrison. But the co-operation of the RAF and the Navy was so effective that the outer defences of the town were soon breached, and then the quick surrender of the garrison became inevitable. Even so, it was not until the New Year that the siege of Bardia finally ended. The remnants of the three Italian divisions which garrisoned Bardia finally surrendered on 3 January.

Whilst the infantry forces were investing Bardia, British armour had already raced ahead and was harrying the defences of Tobruk, the main military and naval base of the Italians. By 7 January the advanced elements of the mechanized force had worked round south of Tobruk, and following their usual encirclement tactics, had cut off the retreat of the garrison along the Derna road.

The assault on Tobruk required careful preparation. The outer perimeter, consisting of layers of anti-tank ditches, barbed wire and pill-boxes, stretched for about 25 miles, enclosing a series of ridges which overlooked the town and harbour. The eastern and southern sectors were known to be particularly strongly held and fortified. The garrison was strong in field and medium artillery, and anti-aircraft guns; the 10-inch guns of a damaged cruiser in the harbour gave them added power.

For two weeks, sharp artillery duels were fought whilst O'Connor made his preparations for the attack. With meticulous care he organised his reconnaissance so that he knew the pin-point position of all Italian front-line dispositions. By careful planning, he was able to achieve surprise where surprise seemed impossible.

The Italians were expecting the main attack to be launched along the general areas of the two hard-surfaced roads which enter Tobruk from the east and south — the Bardia and El Adem roads. Accordingly, O'Connor planned to surprise them on this very point. While his British and Free French troops made feint attacks in strength along the whole of the perimeter, the main drive by Australian infantry supported by tanks was hurled at the south-east Sector, between the two roads along which the attack was expected.

The attack succeeded after a hard struggle, and the perimeter was breached. The British forces made straight for the harbour, by-passing the inner defences. The mopping up was left for troops following in reserve. By the afternoon of January 22, the town was in British hands. One infantry division, some marine units and several thousand other troops were taken prisoner.

Even the delay caused by this hold-up at Tobruk did not substantially slow down O'Connor's hurricane offensive plans; for, even whilst Tobruk was being besieged, advanced elements of British mechanized forces were already in full control of the coastal road up to Derna. Surprise was not possible of course, and though Derna fell on 27 January, most of the garrison escaped to Benghazi.

After the collapse of Tobruk, most of Marshal Graziani's tanks and much of his infantry had concentrated in Benghazi. By this time, it was clear that the Italians no longer intended to hold Benghazi, but were making hurried preparations to withdraw before all hope of escape was abandoned. O'Connor therefore planned a bold move to cut off these forces.

The north-west portion of Cyrenaica juts out into the Mediterranean in the shape of a hump; the eastern end of the hump is at Bomba (just east of Derna), and the western end stands at Benghazi. The coastal road follows the shape of this hump. O'Connor concentrated his armoured forces at Mechili, 50 miles south-west of Derna, and planned to send it cross-country along the base of the hump, to cut off the Italian retreat from Benghazi.

This forced march over unmapped mountain and desert started on 3 February. It was a forbidding terrain over which no troops had ever passed before; a bitter storm swept the whole route. The column had to navigate by the compass and the stars, but after 36 hours of forced marching, with only the briefest halts for food and rest, the British armoured column reached the Coast at Solluch, south of Benghazi.

The surprise was absolute, but only just in time. The Italian columns were already moving south; the British tanks reached the coast just in front of the head of the main Italian column starting their retreat from Benghazi. In another two hours they would have been out of the trap.

Even so, the Italians would have had a chance if they had fought with dash and determination. They had a five to one superiority in tanks, and the support of their infantry. They were attacking the British column laterally on an exposed flank, as they reached the coast from the desert.

The Italians made several half-hearted attacks with their tanks, before a definite attempt to break through was finally made on the morning of 6 February. By this time, however, most of the British column had arrived and had deployed for battle. They were still inferior in numbers, but were in a strong enough position to repel several strong tank attacks. On the second night of the battle, General Bergonzoli exhorted the Italians to make their supreme attempt to break through, and at last a determined attack was made by all troops. It was however too late, and after sixty Italian tanks had been destroyed, the fight was given up on February 6. Benghazi had already been occupied by the Australians moving up the coastal road. By the morning of the 7th all Italian resistance had disintegrated, and victory was complete.

More than 12,000 prisoners, including 8 Generals, over 100 field and medium guns and about 50 tanks were captured. It was a fitting climax to a flawless campaign.

In exactly two months the invading force of the Army of the Nile had advanced 880 Kilometres by road from Mersa Matruh, fought eight major battles and captured nearly 140,000 prisoners, including 19 Generals and an Admiral of the Fleet. They had done all this at the cost of 1,770 casualties, of whom only 435 were killed.

A civilized world, fast despairing after a series of Fascist super-victories, was given its first ray of hope.

THE EAST AFRICAN CAMPAIGN

After the occupation of British Somaliland by Italian forces, the whole of the vast area between the Sudan and the Indian Ocean was under the direct control of the Italian Commander-in-Chief in East Africa. Only the small territory of French Somaliland was not under his direct control, but after the establishment of the Vichy government even this small area was placed at his disposal for all purposes. The frontier which this vast area presented to the west was some 2,500 miles long between the Red Sea and the Indian Ocean. Within this area there was every variety of terrain—flat featureless desert, dense scrub, tropical jungle, mountainous territory with steep impregnable ridges. In most parts the extreme dryness made it imperative to carry all requirements for water.

Within this area there were concentrated some 230,000 men, well equipped and well led. Although after the conquest of Libya the Italian forces in East Africa ceased to be a potential source of invasion, they were still in a position to cause very serious inconvenience. They were served by a number of excellent roads, Italy's chief contribution to Abyssinia since the conquest. The two strategic railways ran one from Massawa to Agordat and the other from Jibuti to Addis Ababa.

Wavell occupied the period prior to the actual attack by organising constant raids against Italian posts on the frontier. The Italian-occupied Sudan frontier post of Gallabat was abandoned by the Italians early in November. In January they were forced to evacuate the important town of Kassala, also a Sudan frontier post earlier captured by the Italians. These posts commanded two of the main trade routes between the Sudan and Abyssinia. Their occupation by British forces meant that the immediate Italian threat to Sudan had been removed. (See General Map of Italian East Africa at end of article).

Wavell's resources for the East African campaign seem almost lavish compared to the odds which he had faced against Graziani in Libya. He had some four divisions against the thirteen or fourteen Italian divisions in East Africa, though in total fighting strength of infantry, the Italians had a superiority of about six to one.

Wavell had organized his command into two groups for the operations against Italian East Africa. On the Sudan border he had placed the 5th Indian Division and the Sudan Defence Force under General Platt. (For the Keren attack, he later brought up the 4th Indian Division from the scene of its victories in Libya to reinforce this front.) In the South, he had placed the 1st South African Division and the 11th and the 12th African Divisions under General Cunningham, the brother of the Admiral commanding the Alexandria Squadron. The 1st S. A. Division was concentrated about 120 miles south-west of Moyale and the two African divisions on the Tana River, about 75 miles west of the Italian Somaliland frontier.

The winter months were occupied in building up the administrative base for the offensive—the collection of motor-transport, storage of petrol and water and building up ammunition dumps as far forward as possible. All preparations

had to be meticulously complete in detail, because the projected campaign was to be a swift moving one in terrain where no water was available and where the impetus of the drive would depend much on the organisation of motor transport to bring up fresh supplies and ammunition.

A secret British mission had previously been sent to organize local patriots into a guerilla force in the north-west province of Gojjam in Abyssinia. This mission had been highly successful and the guerilla operations headed by British officers had reached the scale of a local revolt. While the Italians were occupied in suppressing this revolt, Wavell started his offensive in Eritrea.

Kassala had been captured on 19 January. The Italians retreated in two separate columns along the two roads from Kassala—one leading to Agordat and the other to Barentu. The British force followed up rapidly, with the object of preventing the two columns rejoining. Biscia, the railhead, was captured on 25 January. Agordat fell on 1 February and the Italians were by now in full flight towards Keren. Advance slowed up on the Keren road because of numerous road-blocks and skilfully laid mine-fields.

The column from Gallabat captured Mentemma and took up the pursuit along the Gondar road. This attack was supplemented by a northerly thrust from Kurmuk, the object of these operations being to secure command of the northern Abyssinian plateau, thus paving the way for the complete encirclement and isolation of Eritrea.

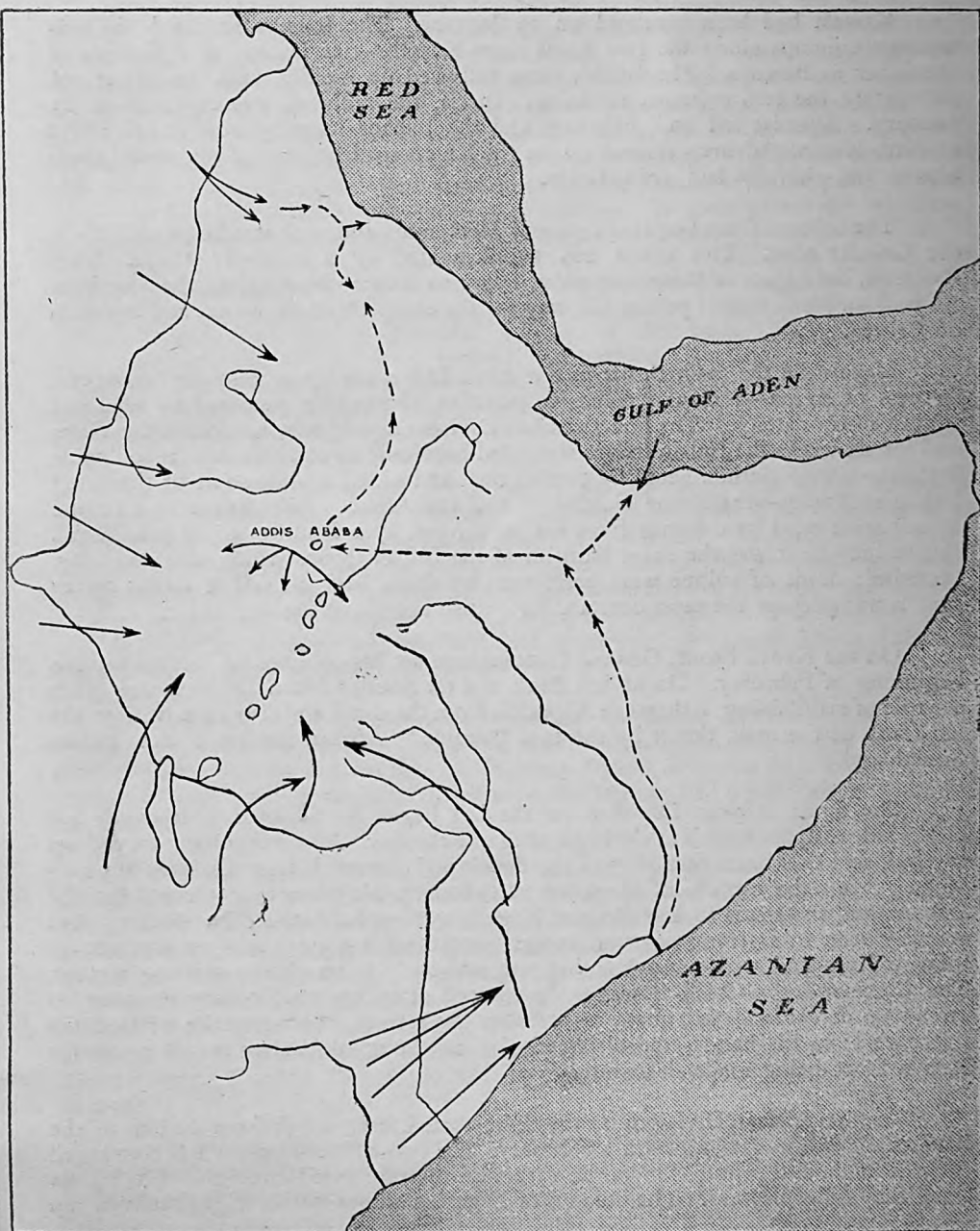
Meanwhile the main thrust in the north had come up against the mountain fastness of Keren—a natural defensive position, thoroughly prepared to hold out against a major attack. The Fourth Indian Division had by now reinforced the Fifth, and for six weeks the Indian troops struggled heroically to conquer this redoubtable fortress—always outnumbered by two to one, and pitted against some of the finest Italian regiments—the Savoy Grenadiers and the Alpini. Alternatives to a frontal assault were tried by columns from the north, and by a landing at Mersa Taclai. But in the end it was the sheer heroism of the Indian troops which won the day. Incredible deeds of valour were performed by them, and the fall of Keren on 27 March was perhaps the most outstanding British success in the war so far.

On the Kenya Front, General Cunningham set his columns in motion at the beginning of February. On his left flank, the 1st South African Division was given the role of maintaining a threat to Abyssinia from the south and also of covering the left flank of the main thrust by the two "native" African Divisions into Italian Somaliland.

The South African Division on the left began its advance northwards on either side of Lake Rudolf at the beginning of February. The left column moved up to Maji, and the thrust east of the Lake developed eastwards from Dukana towards Mega. After the capture of Mega on 18 February, Moyale was evacuated by the Italians and the roads to Yavello and Negelli were opened up. The Italians had actually been in a strong position in this sector, with good roads to operate on interior lines and with overwhelming superiority in numbers and equipment. The Commander-in-Chief, however, instead of attacking each column in turn to attempt a defeat in detail, chose to fight on the retreat. This mistake wrested the initiative from his hands, and ultimately led to the whole Italian position on the Kenya front being made desperate.

The two African Divisions on the right started their attack from the line of the River Tana in three columns on 2 February. The two columns on the left converged upon Afmadu and captured it on the 13th, and then followed up to the River Juba some fifty miles beyond. The column of Nigerian troops on the right moved up

THE BRITISH CONQUEST OF ITALIAN EAST AFRICA



along the coast and captured Kismayu on the 14th after a co-ordinated land-sea attack. The capture of Kismayu, the second port of Italian East Africa, gave to the British an advanced base served by sea communications in place of the previous roundabout land route through Kenya.

The crossing of the Juba proved more difficult. The Italians had constructed strong defences along the north bank, and for two days the British columns were held up in the frontal attack. A tank column was sent out in an encircling attack from the left. It forced a crossing of the river about ten miles east of Juba, and after cutting through miles of jungle terrain the tanks appeared behind the Italians on the road leading to Mogadishu, the capital of Italian Somaliland. The Italians were outmanoeuvred and routed. By 24 February, the British force had captured Mogadishu, having travelled over 200 miles in two days.

A column had also been sent up northwards after the Juba crossing in order to protect the left flank of the coastal advance. It moved up through Lugh Ferradi, captured Negelli and thus increased the threat to the Abyssinian Lake District, already initiated by the South African Division after the capture of Mega and Yavello.

The conquest of Italian Somaliland was virtually complete. Mobility and surprise had achieved a victory over vastly superior numbers. The main advantage gained was in the supply position. With Kismayu and Mogadishu in British hands, the advance base for the further attacks could be moved up from Mombasa, by sea, bringing it nearly four hundred miles nearer to the attacking troops.

The conquest of Italian Somaliland also opened up the routes for the invasion of Abyssinia. The Italians had built two excellent roads, one up the Juba Valley towards Addis Ababa (along which one column had already been sent), and the other up the Webi Valley towards Harar. It was along the second of these that the main effort was planned. Neither of these two routes had been prepared for defence, for the Italians had least expected an invasion to develop from this direction.

By March 6 the main thrust had reached Ferfer, across the Abyssinian Frontier; on the 10th, Dagabur and on the 17th Jijiga, not fifty miles from Harar. In seventeen days the British Force had covered 570 miles and captured about 30,000 prisoners.

At this stage another phase of the British plan was put into operation. The fall of British Somaliland the previous year was avenged by a combined operation to capture Berbera. While RAF bombers raided nearby enemy airports to keep Italian fighters on the ground, the Royal Navy made two separate landings to capture Berbera. The main detachment, of picked regiments of the Indian Army, was landed to the west of the port, and a small force of Arabs and Somalis landed along the Berbera shore itself. In a few hours the operation was completed and another port was captured whose use would greatly shorten the land communications of the invaders.

With the link-up of the column from Berbera and the main thrust from Italian Somaliland, the full strength of the combined force could be concentrated against Harar. Here again, the road passes through mountainous territory, and had been well prepared by the Italians for a protracted defence. The British Force, however, once again attacked with great determination and on 27 March, Harar was captured.

In the meanwhile, the successes on the Keren front had been no less spectacular. Pushing relentlessly on, the British advanced elements entered Asmara four days after the capture of Keren. From there another armoured column took up the pursuit along the main road to Amba Alagi. The Gondar road, passing through steep mountain slopes, had been effectively demolished, and pursuit along that route had

to be abandoned. A detachment was, however, sent north to Massawa, the Red Sea port which had been the enemy's main naval base in East Africa. After the surrender of Massawa on April 8, the Italians were effectively bottled in as they now had no other escape to the outer world.

The mechanized column on the Amba Alagi road passed Adowa early in the month, and by 15 April had reached the outskirts of Amba Alagi. This was a strongly entrenched position, a second Keren. The fortress had, however, been prepared for an attack from the north, and when the hurricane advance of General Cunningham from the south reached Amba Alagi, it fell into British hands without the great cost of lives which the Indian Division had paid at Keren.

General Cunningham's plans after taking Harar were to secure the important road-rail junction of Diredawa, about thirty miles to the west, from where an excellent road and railway system run both to Jibuti, the port in French Somaliland, and also to Addis Ababa. The road to Diredawa had been strongly mined and booby-trapped, but not adequately covered by fire to be effective. The Nigerian troops made the distance in two days. This last lap completed their amazing advance of nearly 950 miles in just over forty days having maintained an average of over twenty-two miles a day. Merely as a feat of endurance this advance would be remarkable, but when it is remembered that they had fought two major battles, one at the Juba River and again at Harar, and had fought outnumbered on several minor occasions nearly all the way, this march must be considered a unique military achievement.

From Diredawa, the South Africans took up the advance. Giving the Italians no time to reorganise, they pressed on towards Addis Ababa, about 225 miles to the west. They captured Mieso almost without a fight, and reached the Hawash River by 4 April, from where the road climbs up to the Addis Ababa plateau.

The Hawash River gorge afforded a good defensive line, but the Italians made no attempt to hold it. By the next day the South Africans had covered the ninety miles to the capital and the leading elements entered the town on 5 April. The town was handed over to avoid bloodshed and loss to civilian property.

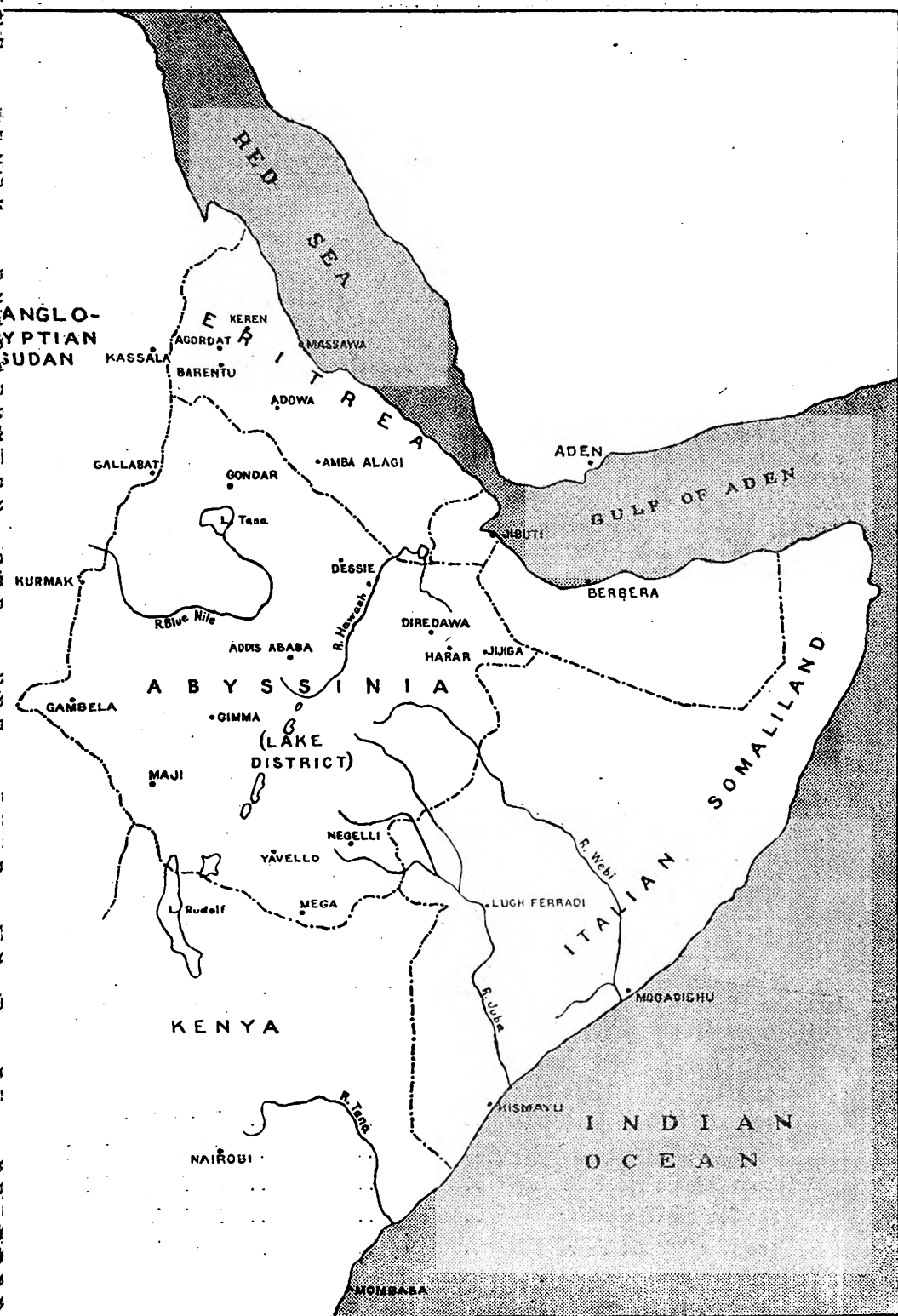
By now the Germans had retaken Benghazi, and the Balkan Campaign was in full swing. The Duke of Aosta was therefore ordered to carry on the fight for as long as possible in order to contain as many of Wavell's troops as possible. He therefore retreated northwards towards Amba Alagi, though he knew that it was only a matter of time before his capitulation became inevitable.

The South Africans took up the pursuit on the road to Amba Alagi. The only point where the Italians made a serious stand was at Dessie, where the advance was held up for over a week and a major battle fought. After the surrender of Dessie on 18 April, however, the enemy retreated in disorder towards Amba Alagi where the last fierce battle was fought.

The Emperor Haile Selassie re-entered his capital on 5 May where he was received by General Cunningham, and his two sons, the Crown Prince and the Duke of Harar who had preceded him.

Amba Alagi stands on a natural defensive position overlooking the Toselli Pass from the south. This pass itself was about 10,000 feet high, and the Indian troops had been attempting to storm the fortress from this direction since the middle of April. By the first week in May the South Africans were pressing on Amba Alagi from the south. By 14 May the fortress was completely surrounded and the last stages of the siege begun. By 16 May the Duke of Aosta had asked for terms, and three days later he surrendered. Some 20,000 prisoners were taken and organised

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resistance was at an end. Only one more phase of the campaign remained—the mopping up of the pockets of enemy around Gondar and in the Lake District south-west of Addis Ababa.

It will be remembered that at the same time as the launching of the coastal attack against Italian Somaliland, two columns had been sent northwards from the South African Division in the region of Lake Rudolf. The column on the left advanced along the Maji road and the other column advanced towards Yavello after capturing Mega. A third column had been sent into this area after the Juba crossing, which advanced north-westwards towards the Lake District after the capture of Negelli. The object of these columns had been to protect the left flank of General Cunningham's main attack along the coast.

It was not the intention of these columns to press home a major attack until the capture of Addis Ababa had been effected. The Lake District Campaign therefore began in earnest only after the fall of Addis Ababa. Although it was in the nature of mopping-up operations, it was still a major task, for all the Italian troops which had been deployed on the Kenya front still remained in this area, and numbered some thirty to forty thousand.

In all some nine columns from various directions were sent into this area to round up the remnants of the Italian Forces. The Nigerian troops, who had been concentrated at Addis Ababa after the South Africans had taken the capital, sent out four columns west and south, two westwards towards Gimma and two southwards on either side of the line of lakes. Three columns thrust northwards, one along the Negelli road, one from Yavello and the third from Maji towards Gimma. From the Sudanese frontier one column advanced through Gambela towards the Gimma area, and one further north which was meant to link up with the northernmost thrust from Addis Ababa.

Numerous battles were fought all through May. The Italian 21st and 24th Divisions, which were centred around the Lake District were gradually forced back by the southern columns. By the third week in May the Lake District was more or less cleared, and the scene of the fighting shifted towards Gimma. It took three weeks of further fighting in June before Gimma finally fell on 18 June.

In the Lake Tana area, a column of Patriot troops advanced southwards west of the Lake to meet a Sudanese Defence Force drive into the coop of the Blue Nile.

The fall of Gimma, however, saw the end of any large-scale fighting. There were still a number of pockets of enemy troops, but most of them were fighting without any heavy equipment or under any organised command. They were rounded up or left to surrender.

It was not until July 22, however, that it was formally announced that "the territories formerly known as Italian East Africa" were now in the occupation of His Majesty Haile Selassie.

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HUNDRED GLORIOUS YEARS

BRIGADIER M. HAYAUD DIN, M.B.E., M.C.

REGIMENTAL celebrations and anniversaries are generally not known except to those who belong to the regiments concerned or to students of military history. But this year* the centenary of an event has taken place which is of significant importance not only to those already connected with it but also to the general public. The event is the Centenary of the Punjab Frontier Force.

When I decided to write this article I found that the subject was vast, embracing a period with glories and triumphs won in campaigns fought over a century, in all climates, on three continents. It is extremely difficult to condense in a short article an adequate account of this interesting history which would need many volumes. However it will not be out of place to have something written, however sketchy it may be.

BACKGROUND

It was a hundred years ago in 1849, on the annexation of the Punjab by the East India Company after the defeat of the Sikhs, that the Punjab Irregular Frontier Force was formed into a corps which is more commonly known as 'The Piffer' not only all over the Commonwealth, but also in many remote parts of the world.

After the annexation of the Punjab, Sir Henry Lawrence was placed at the head of the new Government, with extensive powers. The defence of the frontier from Hazara to Mithankote, at the junction of five rivers was a heavy task to face. It meant the control of lawless tribes, numbering in all not less than 100,000 fighting men, levying blackmail on travellers and merchants, and never combining save against Ranjit Singh or the Kabul Government.

For thousands of years the valley of the Indus under the Suleiman Range had been studded with a line of forts and towers—ruins of which still remain—as posts and out-posts against the ceaseless raids of mountain marauders.

The first duty which fell on Sir Henry Lawrence was the defence of this trans-Indus frontier.

Sir Henry, during the First Afghan War, had seen the difficulties which the East India Company's troops encountered in the passes, amongst the hill tribes, in the absence of guides and interpreters, which made him decide to raise a body to meet such requirements and this was the origin of the 'Guides'.

Originally, one troop of cavalry and two companies of infantry were raised by Lt. Harry Lumsden (later Major-General Sir Harry Lumsden) in 1846 in Peshawar, where he was at the time an Assistant Political Agent. The Corps recruited men from all over the frontier, from across the border, and stretching even to Central Asia. All classes, like Punjabi Mussalmans, Pathans, Gurkhas, Dogras and Sikhs, were enlisted along with Afghans, Hazaras, Persians, etc. Mardan became their permanent home and remained such until just before the Second World War.

* i.e. 1949. The article was received towards the end of the year.—(Ed.)

ORIGIN AND SUBSEQUENT CHANGES

The various units of the Punjab Frontier Force were raised at different times from 1843 onwards, but it was in 1849 that the Force came into being as a formation with its own Commander. The official birthday is 18th May 1849 on which date the authority for its raising was granted.

The original force consisted of three light field batteries, five regiments of cavalry and five battalions of infantry, and was called the Trans-Frontier Brigade. The first commandant was Brigadier-General J.S. Hodgson. The units were:—

1st, 2nd and 3rd Light Field Batteries

1st, 2nd, 3rd, 4th and 5th Punjab Cavalry

1st, 2nd, 3rd, 4th and 5th Punjab Infantry.

These units were disposed of between Hazara, Kohat, Bannu, Dera Ismail Khan and Dera Ghazi Khan up to the Sind border.

In 1851 the Force was expanded and the title was changed to the Punjab Irregular Force; hence the origin of the name 'Piffer', a name so well known in military history.

The new units added to the Force were:—

Two batteries (one mountain and one garrison)

The Corps of Guides (consisting of cavalry and infantry)

1st, 2nd, 3rd and 4th Sikh Infantry. (These four units had been raised in 1846 as part of the Frontier Brigade, after the First Sikh War. They contained a fair proportion of men from the old Khalsa Army but were in no sense composed entirely of Sikhs in spite of their name).

6 Punjab Infantry (which had been raised in 1843 in Sind by Sir Charles Napier as a Camel Corps, but retained its title as Scinde Rifles on conversion to Infantry).

After the Mutiny it was decided to transfer the Gurkha personnel from the four Sikh Infantry Regiments and the Guides, to form a separate regiment called the Hazara Gurkha Battalion. Thus in 1858 a separate Piffer Gurkha unit was formed which in 1861 became the 5th Gurkhas.

The title of the Force by which it is best known, i.e., Punjab Frontier Force, was not adopted until 1865. This name remained unchanged even when the Force ceased to exist as a separate entity in 1903 on being absorbed into the Indian Army on its reorganization by Lord Kitchener when he became Commander-in-Chief.

The Force then consisted of:—

The Corps of Guides

The 1st, 2nd, 3rd, 4th and 5th Punjab Cavalry

The 1st, 2nd, 3rd and 4th Mountain Batteries

The Frontier Garrison Artillery

The 1st, 2nd, 3rd and 4th Sikhs

The 1st, 2nd, 3rd, 4th, 5th and 6th Punjab Infantry

The Hazara Battalion of Gurkhas (later to become 5th Gurkha Rifles.)

In 1886 a notable change was made regarding the control of the Force. From the beginning it had been under its own commander who was directly under the orders of the Punjab Government and not under Army Headquarters. In other words, it was a private army of the Punjab Government, equipped and organised in any way which suited local conditions. In 1886 the Force was brought under the control of the Commander-in-Chief.

Under Lord Kitchener, a complete reorganisation of the Indian Army took place in 1903. The separate Presidency armies were abolished and along with it the Punjab Frontier Force also lost its entity. Its G.O.C. and the staff were abolished. The units were however not disbanded, but absorbed into the reorganized new Army getting fresh numbers. These were:—

Guides

21st, 22nd, 23rd, and 24th Mountain Batteries

The Garrison Artillery

21st, 22nd, 23rd, and 25th Cavalry

51st, 52nd, 53rd, and 54th Sikhs

55th, 56th, 57th, 58th, and 59th Rifles

5th Gurkhas.

It is to be remembered that the 4th Punjab Cavalry and the 3rd Punjab Infantry were disbanded in 1882 when the size of the Army was reduced. In 1900 another regiment of Gurkhas, i.e., 42nd was added, but this regiment did not live very long, as in 1903 it was disbanded.

After the First World War a further reorganization of the Army took place. The group system was introduced for the infantry and the silladar system for the cavalry was abolished. New numbers were given to all units. This system has remained in force up to date with minor changes. The units of the Force became known as:—

1st (Kohat), 2nd (Derajat), 3rd (Peshawar), and 4th (Hazara) Mountain Batteries.

10 Guides Cavalry (Q.V.O. Corps of Guides Cavalry).

11 PAVO Cavalry (late 21st and 23rd Cavalry).

12 Sam Browne's Cavalry (late 22nd and 25th Cavalry).

12th Frontier Force Regiment 1st, 2nd, 3rd, 4th (Sikhs) and 5th (Guides) Bn).

13th Frontier Force Rifles (1st (Cokes), 2nd, 4th (Wilde's), 5th (Vaughan), and 6th (Scinde) Bn).

5th Gurkhas (1st and 2nd Bn).

With the raising of the Indian Territorial Force, territorial battalions were added to the Force. These were called 11/12 F.F. Regiment and 11/13 F.F. Rifles, respectively. With changes in the cavalry regiments in 1937, the Sam Browne's Cavalry became one of the training regiments for the cavalry.

In the 1914-18 war, a number of new battalions had been raised for the duration. The 2nd Guides Infantry, after the war, became the 10th Bn, 12th F.F. Regiment. Similarly, the 2/56 Punjab Rifles became the 10th Bn, 13th F.F. Rifles. Later the 10th Battalions were named Training Centres. During the Second World War, on expansion, many new battalions of the F.F. units were raised, most of which were disbanded at the end of the war.

After the 1939-45 war the titles of the '12th' and '13th' were dropped and these two infantry regiments became the Frontier Force Regiment and the Frontier Force Rifles respectively. No change was made regarding the 5th Gurkhas. The numbers '12' and '13' were re-introduced in 1949.

On partition in 1947, the Frontier Force was also partitioned, the bulk of the regiment being allotted to the Pakistan Army, thus continuing to serve in areas already familiar to most of them.

CLASS COMPOSITION

The class composition of the Frontier Force has altered little despite many other changes. These classes were Punjabi Mussalmans, Dogras, Sikhs, Pathans and Gurkhas. At one time Gurkhas were enlisted by a number of the Piffer Regiments along with the other classes. Later when 5th Gurkhas was formed the Gurkhas from other Piffer Regiments were transferred to it. During the two world wars, other classes like Kumaonis were taken temporarily for the duration, but the main class composition was not changed until 1947.

NATIONALISATION

After the First World War a few units of the Army were selected for nationalisation, often referred to as Indianisation. No Piffer units were included amongst them at the time. On expansion of the nationalisation scheme in 1932, two Piffer battalions, i.e. 4/12 F.F. Regiment and 6/13 F.F. Rifles were added to this list. It is a matter of pride that Indians and Pakistanis of these two regiments played a distinguished part in World War II, and some of them are now holding responsible positions in their respective armies.

By the time the 1939-45 war started the restriction of nationalisation to certain regiments was thrown overboard except for Gurkha units.

FRONTIER CAMPAIGNS

Having explained the reorganisation etc., which I consider is important for those who are not acquainted with the history of the Force, I will endeavour to give a brief account of the various campaigns in which these units played such a distinguished part.

It is no exaggeration to say that no campaign has been fought on the Frontier in the last hundred years in which personnel of the Force have not taken part. From Chitral down to the Sind border the Piffer units whilst guarding the Frontier participated in every scrap that took place. These operations varied considerably. Sometimes they were conducted on a large scale lasting several months, involving large numbers of troops drawn from all over the country. At other times they were small skirmishes involving hardly more than a few rifles. It was a life of continuous active service, living under severe conditions often in isolated posts dotted along the Frontier, ready to turn out at short notice to meet an emergency call. Except when sent overseas on active service, or during the Mutiny in 1857, these units never left the Frontier in peace time until 1903, when they became liable to be stationed anywhere.

The main cantonments of the Force were Kohat, Bannu, and Dera Ismail Khan where they had their permanent messes with detachments in various troublesome places.

There have been nearly fifty officially recognised frontier campaigns in which the Force has taken part.

MUTINY 1857

When the Mutiny broke out in 1857, a number of units left the Frontier to take part in operations against the mutineers. The Guides established a unique record by marching 580 miles in 26 days in the hottest season to Delhi. Cavalry regiments as well as infantry battalions took part in the siege of Delhi and the relief of Lucknow, besides fighting in other areas too. The 4th P.I. marched over a thousand miles to reach the scene of operations at Lucknow, where they took part in the assault on Sikandrabad, along with the 93rd Highlanders.

Kipling's Gunga Din came from the Guides, where he was a water-carrier who distinguished himself in the mutiny.

FOREIGN AND OVERSEAS SERVICE

As early as 1854 units of the Force were sent overseas to take part in operations. The 4th Sikhs went to Burma and bear Pegu as one of their battle honours. When the Second Afghan War broke out in 1878 no less than 17 Piffer units took part in it. The action of the small detachment of the Guides escort with Sir Louis Cavagnari, the British Agent in Kabul, who fought to the last against overwhelming numbers of Afghans in 1879, is a classic example of their devotion and loyalty. The only gunners Lord Roberts had during his famous march from Kabul to Kandahar were the four Piffer Mountain Batteries.

In Burma in 1885, Piffer units were again employed when trouble broke out in that country. When the Boxer rebellion started in China in 1900 two Frontier Force battalions were included in the force used against the Chinese; one of these, 1st Sikhs, claims to have been the first to enter the British Legation in the final assault of Peking. They possess a white ensign given to them by the late Admiral Sir Roger Keyes, then a Lieutenant, to hoist on the recaptured building.

From 1902-04 the 2nd Sikhs formed part of the expedition against the Mad Mullah in Somaliland.

Pegu, Punjab, Delhi, Lucknow, Ali Musjid, Kabul, Tirah, Burma, Peking and Somaliland were some of the battle honours proudly borne by the units.

1914-18 War

The Indian Expeditionary Force which landed in France in the early days of the war in 1914 contained the 57th, 58th and 59th Rifles. They took part in the hard fighting under miserable conditions which prevailed in France and Flanders in those days.

The 15th Gurkhas and the 1st Mountain Battery shared the hard fighting in Gallipoli along with the Anzacs and other forces of the Empire.

In Mesopotamia, Palestine, East Africa and the North West Frontier, which could not be left unguarded, a number of Piffer units were included in the different expeditions in those countries.

At the end of the war in 1918, many units continued to remain overseas, taking part in post-war duties including the time of the Arab Rebellion in Iraq and a large number returned home in time to be employed in the Third Afghan War in 1919.

New and more distinguished names were added to battle honours, like La Bassie, Ypres, Shaiba, Kut, Magiddo, Anzac, Mesopotamia, Persia, East Africa, Baluchistan, and Afghanistan in 1919.

Inter-War Period

After the Third Afghan War, the units of the Frontier Force found themselves taking part in the periodical skirmishes on the Frontier which broke out at frequent intervals up to 1939. These included the campaigns of Waziristan 1919-21, 1923-24, 1930, N.W.F. 1930-31, Mohmund 1930, 1935 and Waziristan 1937.

A V.C. was won by the Guides in the Mohmund operations in 1935.

The title of Royal was granted to the 1st Mountain Battery, the 59th Scinde Rifles and the 5th Gurkhas, for their services in World War I.

The 51st Sikhs became the 'Prince of Wales's Own'.

On the occasion of the Jubilee of King George V in 1935 the 3rd/12th F.F. Regiment was granted the title 'Royal' for their distinguished record.

1939-45 War

When the Second World War came, Piffer units were included amongst the formations which went overseas. They were in North Africa, Abyssinia, Italy, Crete, Greece, Syria, Burma, Malaya, the Dutch East Indies and French Indo-China. The new units raised during the war also fought with distinction wherever they were sent.

The PAVO Cavalry can claim to be the only armoured regiment to have the distinction of having fought against all the three Axis countries of Italy, Germany and Japan, in turn.

MISCELLANEOUS

The Piffers can claim to have provided two items of military equipment which have become universal. These are Sam Browne's belt and the khaki uniforms.

General Sir Sam Browne, V.C., was a Piffer officer who had lost one arm. He invented the belt which bears his name, so that he could use his sword. Ever since then this belt has been adopted by most of the armies of the world.

General Sir Harry Lumsden in the early days when he raised the Guides, invented a 'dye' to camouflage the uniform of his corps. This was called 'Khaki'. The name means 'dust' or 'dust colour', and is now universally known.

HONOURS AND AWARDS

Before 1914, the Frontier Force had won fourteen V.C.s, four in 1857, four in the Second Afghan War and the rest on the Frontier, besides a large number of Indian Orders of Merit which until 1911 was the highest award which a sepoy or a Viceroy's Commissioned Officer was eligible to get. At the Delhi Durbar in 1911 H.M. King George V announced that they would in future be eligible for the "Victoria Cross" which since then many have won.

In the 1914-18 war three V.C.s were won, including one of the first V.C.s awarded to a person belonging to the Indo-Pakistan Sub-continent. This was Jemadar Mir Dast of Coke's Rifles, an Afridi from Tirah.

Seven V.C.s were won in the Second World War. The only V.C. awarded for the campaign in Malaya was received by a Piffer in 1942.

A total of twenty-five V.C.s has been won by the Force, besides many other honours and awards including a large number of foreign decorations.

DISTINGUISHED LEADERS

The Force has produced a considerable number of distinguished officers who played important roles, not only in the Army but also in other spheres. To mention only a few names, we have Generals Lumsden, Coke, Wilde, Sam Browne, Probyn, Field-Marshal Lord Roberts, Chamberlain, Generals Sir William Lockhart, Sir Charles MacGregor, Field-Marshal Lord Birdwood, Generals Lord Ismay, Sir John Brind, Sir George MacMunn, and Sir Robert Lockhart, the first C-in-C of India after partition. Among the political officers who rose to great heights are Colonel Sir Henry McMahon who became High Commissioner in Egypt after the First World War, Sir Arthur Parsons, late A.G.G. of Baluchistan, and Sir Kerr Fraser Tytler who was Minister at Kabul.

PARTITION 1947

In August 1947, the following regiments were allotted to Pakistan and India respectively:—

Pakistan

1st and 3rd Mountain Batteries

Guides Cavalry

PAVO Cavalry

The F.F. Regiment

The F.F. Rifles

India

2nd and 4th Mountain Batteries

5th Gurkhas

A new regiment called The Pathan Regiment (F.F.) has since been raised consisting of some war-time Piffer battalions.

The Sikhs and Dogras from Pakistan units left for their new units in India, being replaced by Punjabi Mussalmans and Pathans, making these regiments two-class units.

Soon after the partition, these regiments were called upon to restore law and order in the upheaval which ensued in Punjab. In the performance of their duties, they proved once again that in spite of major political changes, the spirit and tradition of the Force had not changed. In fact, they displayed the same example of devotion to duty which had been the tradition of their forbears.

PIFFER WEEK

Kohat became the home of the Piffers after the first great war, and here the Piffer Week was regularly held each year. Since the second great war the Piffer Mess has moved from Kohat to Abbottabad. The training centre of the Frontier Force Regiment was also shifted from Sialkot on the departure of the 5th Gurkhas to India.

Last year, the first post-war Piffer Week was held in Abbottabad with great success. It is hoped to make this function a regular annual feature. In the U.K. a P.F.F. Association has been formed with General Lord Ismay as the first President to keep alive the comradeship of the Corps.

CENTENARY CELEBRATIONS

In London a Centenary dinner and a garden party were held on the 10th and 11th June respectively, this year. On the 12th of June a memorial service was held at St. Paul's Cathedral. All these functions were well attended. It will be of interest to readers to know that the pulpit at St. Pauls was presented by the Piffers.

The B.B.C. broadcast a talk by General Lockhart on 18th May, and he also gave a lecture to members of the East India, Burma and Pakistan Association on the history of the Force on the 19th May at the Overseas League.

In Pakistan, the home of the Force, the celebrations took place in the first week of October at Abbottabad with great pomp and show.

As a gesture of friendship, the Piffers in Pakistan invited a number of distinguished officers from U.K. to attend the Piffer Week. All could not go but two, namely General Sir Rob Lockhart and Brigadier Joseph Weld, accepted the invitation and went to Pakistan. Needless to say that all their expenses were paid by Piffer officers in Pakistan, showing once again that the spirit of good will and comradeship is not gone in spite of the many changes.

THE FUTURE

A Force which has won so many distinctions in the last hundred years has a proud record second to none. Though in the last two years a large number of officers have left their regiments owing to political changes in the country, one can say that the spirit of the Force has not altered materially. The new officers may not have been Piffers long, but they are just as keen as any Piffer could be to maintain the traditions, customs and *esprit de corps* built up by their predecessors. I can certainly say this for the units of Pakistan, who under most trying conditions in the post-partition days, with few experienced officers, and with more than fifty per cent of the regiment composed of completely new personnel, displayed the same spirit of courage and loyalty as shown in the past. There is every reason to look to the future with great hope and confidence.

THE RED ARMY

BRIGADIER B.M. KAUL

THE BIRTH OF AN ARMY

THE Red Army came into existence on 23 February, 1918. And in just over twenty years it became one of the mightiest forces in the world. Let us see how this happened.

True, that the Russians had defeated Napoleon in 1812. But they had suffered a heavy defeat by the Japanese in 1905, and in 1917 they had capitulated to Germany. Consequently, by 1918 the Russian Army had disintegrated considerably. Their morale was low. They had degenerated into a rabble. Then came the civil war. And out of its ruins rose the Red Army.

There are instances in history to show that Germany has miscalculated the strength of foreign countries. She made another miscalculation when she invaded Russia in 1918, thinking that the latter was weak and would be defeated, thus enabling Germany to utilise her vast resources.

In Russia at that time a large number of soldiers, sailors and workers had formed themselves into a militia called the Red Guards. The Germans at first met with little opposition—their invasion augured well. On 23 February 1918, however, they met with their first rebuff from the Red Guards. This date is regarded as the official birthday of the Red Army and is celebrated every year throughout the Soviet Union. Faced with overwhelming odds, the Red Army eventually defeated the Germans. It was therefore born, steeled and tempered in battle. It learnt to fight by practice and not by theory; it learnt its lessons well. Its commanders were men who had no previous military training and were not tied down by military dogmas. But they had unshakable conviction and their people were behind them.

Every member of the Red Army had to take the following oath:—

“I, a citizen of the Soviet Socialist Republic now entering the ranks of the Workers’ and Peasants’ Red Army take this oath and solemnly swear to be an honest, brave, disciplined and vigilant soldier, strictly to preserve military and state secrets and unswervingly to obey all military regulations and the orders of my Commanders and superiors. I swear conscientiously to study the art of war, scrupulously to cherish military and public property and to be faithful to my last breath to my people, to my Soviet country and to the workers’ and peasants’ Government. I shall be always ready at the command of this government to come forth in the defence of my country and as a soldier of the Workers’ and Peasants’ Red Army I swear to defend it courageously, ably, worthily and honourably, sparing neither my blood nor my life for the achievement of complete victory over the enemy. If by malice aforethought I violate this, my solemn oath, may I bear stern punishment under the Soviet Law and the hatred and contempt of the working people”.

All the peoples of the U.S.S.R. were represented in the Red Army. Therefore its loyalty to the people was boundless. The people responded with a great love for their army—loyalty and support to the degree of self-sacrifice. (It was quite common during the 1941-45 war to hear that scientists, engineers, lawyers and

writers who were awarded the Stalin Prize, the highest award for outstanding literary or scientific achievement, had immediately handed the whole sum of the prize over to the Defence Fund).

The U.S.S.R. occupies one-sixth of the world's habitable dry land surface; 22 million square kilometres in area; 4,500 kilometres from north to south and 11,000 kilometres from east to west. An express train from Moscow to Vladivostok travels for 240 hours—10 days and nights. The area is rich in minerals and precious stones. It has the third largest population in the world.

Resources are of little use if they are not developed. Deposits of iron ore are not tanks; oil deposits are not aviation spirit; and coal seams are not ammunition. Russia developed all these resources and as a result is now one of the most powerful industrial countries in the world.

The peasantry in Russia is united in the collective farms which are able to pay well for the labour of their members and at the same time have a high level of production. All members join together the plots of land they own. Cattle, farm implements, seeds, fodder, shops and installations for the manufacture of farm produce are all collectivised. Soviet agriculture is largely mechanised.

If all this had not been done the Red Army would have been without food at the most critical moment and would have lost the war against the Germans.

The great purge in the Russian army in 1937 amazed the world. The official version is well known. It was that the executed generals were spies and traitors and were parties to a plot with a foreign power (Germany) unfriendly towards her, and had supplied military information secretly to that foreign power—had conducted sabotage in order to undermine the military might of Russia—and that the executed men had confessed their crimes.

In actual fact the policy of collectivisation of Soviet agriculture had resulted in a fight between the peasantry and the Government. The Kulaks (wealthier peasants) had received rough justice. This was unpopular in the army. The bad harvest of 1936 was due to the peasants' non-cooperation with the Government. If this state had continued there might have been famine in Russia and consequently shortage of necessary supplies for the Red Army. Some officers in high command asked Stalin for a change in policy towards the peasantry. This he declined to do. As a result Tukhachevsky and G. Marnik resolved to organise a coup and overthrow Stalin's regime. The main features of the proposed new regime were that the Soviet System was to remain; free elections were to be introduced; land was to be returned to the peasants; collectivisation was to remain in localities where it was successful; private property was to be reinstated and the Comintern was to be liquidated. This plan was betrayed. And thus came the purge. More than 20,000 officers and others were executed.

The purge led to accelerated promotion in the Red Army. Comparatively youthful commanders assumed high military posts. Some of them like Zhukov and Rokossovski later became world famous.

The Soviet Union have never hesitated to weed out undesirable or incompetent personnel from its ranks. For instance 8,782 commanding personnel were purged in 1924, 2,742 for being overage, 2,149 for inefficiency, 2,119 for disloyalty, and 1,772 for being unfit.

MILITARY COMMISSARS

The Russians introduced military commissars in their Army. The commissars were the political representatives of the U.S.S.R. in the army and ensured the loyalty of the commanding personnel and the troops to the Soviet regime.

The principal commissar of the army was subordinated to the chief of the staff of the supreme G.H.Q. but had the right to correspond direct with the Government. No military orders were valid until they had been countersigned by commissars. At the same time they were responsible for the prompt execution of all military orders. At first commanders were in complete control of military matters, operational work and combat activities. The commissars on the other hand were in charge of the political training and education of troops. Later they were allowed to "take interest" in operations and "give advice". In 1919 problems of military administration and supplies were placed under the joint authority of commanders and commissars. Trotsky once said that the "beau-ideal" was a commissar who could replace a commander at a critical moment.

The ardent commissars provided a great fillip at the outset when the Red Army was not well organised. Later when men of proved integrity and battle experience commanded the Red Forces, the commissars became redundant. So they were abolished in 1940. They were re-introduced in 1941 and proved useful during the war.

It is interesting to note that in its earlier stages (until 1918) the Red Army had 70 per cent Communists in its ranks. As it became an organised force, with military tradition, the number of Communists steadily decreased.

TRAINING & ORGANISATION.

By October 1922, some 520,000 lads born in 1902 had received training. 420 regional and sectional sports centres, serving as rallying points for 1,500 sports organisations had been established with a membership of 160,000.

The training aimed at developing political consciousness, military ideas, skill at handling weapons, knowledge of maintenance of weapons, musketry, tactics, drill, acquaintance with basic military regulations, and physical culture.

This programme had 420 training hours in 2 years as shown below:—

	<i>Infantry</i>	<i>Cavalry</i>	<i>Artillery</i>	<i>Engineers</i>	<i>Signals</i>
Political Training	75	75	75	75	75
Military Hygiene	6	6	6	6	6
General Infantry and Military Regulations	20	20	20	20	20
Weapons	75	15	18	15	15
Chemical Warfare	6	6	6	6	6
Physical Culture	45	45	45	45	45
Drill & Tactical Trg.	73	44	39	50	44
Musketry	110	77	36	77	77
Military Engineering	10	10	6	..	10
Special Training	..	122	169	126	122
	420	420	420	420	420

All these categories made important and valuable reserves for the Red Army.

In 1935 Frunze estimated that 1,200,000 young men reached military age each year. Of these, 850,000 were fit for service. The standing army trained 270,000 and the territorial militia 250,000.

OSOAVIAKHIM

This was a huge military voluntary defence organisation. Its programme was to provide primary military training for persons without experience in military matters, largely young persons of pre-army training age or younger. The aim was to give initial impetus and create interest in continuing military studies. All members had to work in this organisation in their spare time. Prior to 1927 there were two bodies; one called Oso (assistance in defence) and the other called AVIAKHIM (assistance in aviation and chemistry). In 1927 both were amalgamated in one and assumed the title of OSOAVIAKHIM. By 1929 it had five million members of which only 300,000 were military personnel, the rest being civilian volunteers. There were a million women members. By 1931 the membership had increased to eleven million.

It had 27,070 organised groups for the study of military science, 15,000 for grenade throwing, 4,080 shooting galleries, 8 travelling schools for marksmanship, a sniping school and a central experimental shooting station. There were 240 cavalry study groups, 2 riding schools, a large number of military-naval study groups, 1,035 special women's circles for communication and administrative services, 2,000 groups for air and chemical defence, 760 groups for aviation and chemistry, 175 schools for commanders, 14 glider stations, 40 flying fields and 139 emergency landing fields. In addition there were four aviation clubs, 350 circles for the study of aviation, 9 courses for motorists and 2 courses for meteorologists.

The members received training in marksmanship, taking apart, cleaning and assembling small arms; estimating distance, orienting themselves by the sun, stars and the compass; and reading simple maps. They were taught elementary tactics, firing with respirators on, and given instruction in tanks, aviation and chemical warfare. Simple first-aid was taught. World affairs *vis-a-vis* the U.S.S.R. were also discussed and explained.

Those who were physically fit all-round were awarded a special badge. By 1939 there were 12 million members of the Osoaviakhim, half of whom held this badge.

COMPOSITION AND ORGANISATION OF THE RED ARMY

In 1939 the federal Soviet armies were composed as follows:—

Russians	..	..	..	..	..	78	per cent
Ukrainians	..	..	..	..	..	9	„
Tartars	..	..	..	..	..	3	„
Jews	..	..	..	..	..	1.6	„
Latvians	..	..	..	..	..	.6	„
Bashkirs	..	..	..	..	..	.3	„
Others	..	..	..	..	..	7.5	„

Infantry

There were 290 Russian Divisions each of 18,000 men in 1941. There are at present 200 Infantry Divisions in the Red Army.

The Degtyarev automatic rifle with which the Red Forces are now equipped possesses all the qualities of a light machine-gun. It is 18.5 pounds in weight, mobile, compact and easy to handle. It fires 47 shots without reloading. Its maximum rate of fire is 600 shots per minute. This and the anti-tank rifle are standard equipment for infantry. Each infantry division includes a tank battalion of 45 tanks.

Cavalry

In 1939 the Red Army had 44 Cavalry Divisions of 3,700 men each (largest cavalry force in the world). Red Cavalry played an invaluable role during the winter campaigns of the 1941-45 War when motorised divisions lost their mobility.

Artillery

In 1939 there were 130 Regiments of light and 100 Regiments of heavy artillery. There were 6,000 guns of medium and 2,000 of heavy calibre.

Tanks

Russia had about 30,000 tanks in 1941. Some of them could travel at 68 miles per hour. In 1939 motorisation had reached the striking figure of 13 horse-power per man.

There are also amphibian tanks which can move from land to water without adjustment and remain afloat in water for seven hours.

Medical Services

They are highly developed. Surgeons invariably operate in sterilized smocks, in gloves and masks, with portable electric lamps very close to the front line. Dressings are sterilized on the spot.

There is a well organised blood transfusion service with collective stations set up in cities and rural districts. The blood is placed in thermos containers and sent by road or air to hospitals or dressing stations at the front. There has never been shortage of blood for transfusion purposes. To prevent frost-bite in severe winter conditions there are heated ambulances, fur and padded blanket bags, improvised padded dressings to protect the affected organs from the cold, extensive use of chemical heating pads, and frequent warming and feeding stations along ambulance routes. Wounds of the skull, eye, face, jaw, breast and limbs—especially fractures of the thigh—are each treated with expert care.

The strength of the Red Army fluctuated over many years as follows :—

1919	..	..	..	..	450,000	
1921	..	..	..	..	5,000,000	
1924	..	..	..	..	562,000	
1933	..	..	..	..	940,000	
1939	..	..	..	..	1,900,000	
1940	..	..	..	..	3,000,000	} and 15 million Reserves.
1941	..	..	..	..	5,000,000	

The Russian population in 1939 was 193 million. Considering that 10 to 12 per cent could be mobilised, the potential man-power of Russia was 20 million. And in the 1941-45 War it was fully mobilized.

Reserves were divided into 3 parts :—

- (a) Up to 35 years of age.
- (b) 35—45 years.
- (c) 45—50 years.

Those in (a) above had to attend 6 training assemblies each of 2 months ; those in (b) five assemblies of one month each and those in (c) only one assembly of one month.

The principle of voluntary service proved to be a failure. Conscription was therefore introduced. Violation of the oath, desertion to the enemy and espionage were made punishable by death.

There is no discrimination against any class of inhabitant of the U.S.S.R. All male citizens are liable for military service.

All males of 19, and those with secondary school education aged 18, are subject to military service. About 25 per cent recruits are normally released either for physical unfitness or for being the sole supporters of their families.

The expansion of the school and college system gave the Red Army a remarkable opportunity to recruit youngsters fully able to operate the new equipment and provide the leadership required in modern warfare. The number of students had reached 550,000 in 1939, greater than the number of students in Germany, Britain, France, Italy and Japan put together.

145,000 students who had passed out of secondary schools were drafted into the Army in 1939. A statute provided that they had all to serve in the armed forces prior to admission to colleges.

ACADEMIES AND SCHOOLS

17-21 year old youths could enter military schools upon passing an examination in Russian and mathematics. Obligatory study of subjects such as foreign languages, literature, natural sciences, physics, mathematics, history and geography was introduced. There was a three years' course for infantry and cavalry and a four years' course for those specialising in other arms.

By 1939 there were 63 training schools for land forces and 32 special flying and technical aviation schools, in addition to the 16 military academies and nine military faculties in civil universities. There were separate academies for various arms and services. There was, for instance, Dzerzhinski Academy for Artillery; Kuibyshev Academy for Engineers; Frunze Academy for Operations and Tactics; Budenny Academy for Electrical Engineering and Signal Communication; Zukhovsky Academy for Aviation; and Stalin Academy for Motorisation (Tanks and Armoured Cars).

In addition there were many Regimental schools and courses providing a 6-12 months' training for NCOs where several hundred thousand were trained annually. They were all potential reserves for Officers in case of a future war.

An Officer could do three types of courses :—

- (a) *First Phase* .. Practical training for platoon and company commanders. Officers are trained for one year only.
- (b) *Second Phase* .. Perfecting students in all phases of military science affecting infantry, cavalry, armoured troops and artillery.
- (c) *Third Phase* .. Preparing highly trained specialists in their respective fields of military science and art.

For the training of commanders there is a compulsory one year course for those in zone for the command of battalion and artillery groups, and another one year course for higher commands.

The hours of work in the old Army and the Red Army compare as follows :—

				<i>Red Army</i>	<i>Old Army</i>
Sleep ..	..	..	..	8.5	8
Military Training	..	..	..	5.5	8.5
Odd jobs	..	..	..	2	2.5
Rest ..	..	..	..	2	3.5
Games..	..	..	..	1.5	1.5
Education	..	..	..	4.5	..
				24 hours	24 hours

PAY—OFFICERS

The following table will show the current rates of pay in the Red Army:—

<i>Appointment</i>					<i>Monthly pay in Rs.</i>
Div Comd	..	..	..	..	2700
Bde Comd (Regt)	..	..	..	..	2100
Bn Comd	..	..	..	..	1570
Coy Comd	..	..	..	..	1110
Pl Comd	..	..	..	..	895
Sgt Major	..	..	..	..	855
Sgt ..	..	..	..	..	465
Pte with 3 years	..	..	..	..	240
Pte ..	..	..	..	..	22

There is no marriage or other allowances permissible. No deductions are made for income-tax. Deductions are made for party subscriptions, state loans, etc.

(In the Soviet air force a deduction of 6% is made for being childless).

Promotions

The Russian Army at first introduced rapid promotion. The necessary minimum was 2 years in command of a platoon, one year as a senior subaltern, 3 years as a Company Commander, 2 years as a Battalion Commander and 3 years as a Regimental Commander. Later this was altered as follows:—

				<i>Total Service</i>
Junior Lieut	..	..	2 years	..
Lieut ..	..	..	3 "	5 years
Senior Lieut	..	..	3 "	8 "
Captain	..	..	4 "	12 "
Major ..	..	..	4 "	16 "
Lt-Col and Col	..	..	8 "	24 "
General	..	..	No term.	

Note:—Accelerated promotion was given for distinguished service.

At one stage drastic age limits were introduced. For instance 33 years for Major, 40 years for Lt-Col and 45 for a General. Later they were relaxed to 40 for a Major, 45 for a Lt-Col and 60 for a General.

All promotions were made on merit, not on seniority. Among the points considered were discipline; will-power and tenacity; initiative; presence of mind; ability to observe; respect for subordinates; technical knowledge of own arm; ability for self-improvement; past service; personal qualities; and lastly, the condition of the unit commanded.

After the purge of 1937-38 many young commanders forged ahead. It was quite common for a divisional commander to be in his early thirties.

WELFARE OF THE RED SOLDIER

The soldier in the White Russian armies was a complete nonentity. The Red Army infused such awakening in him that he became conscious of his personality and began to think that he was a part of the Soviet Union—a focus of attention of all the peoples of the U.S.S.R.

In order to keep track of what the soldier thought, the rank and file were gathered periodically and their observations noted. Then there were the wall newspapers. Items submitted by soldiers, both used and rejected, contained valuable data. Questions asked by soldiers at company and regimental meetings were recorded.

In 1926 there were 757 army clubs with 11,158 circles with a membership of 203,000. The so-called "Lenin Corners" were 5,348 by 1924.

9,828 lectures, theatrical performances, concerts and excursions were given to the Red Army in 1924. There were 4,763,800 books in soldiers' libraries.

By 1939 there were 26,435 Lenin Corners, 1,900 soldiers' clubs and 25 million books in military libraries.

The various "circles" were divided as follows:—

- (a) Political
- (b) Military
- (c) Physical Culture
- (d) Sports
- (e) Dramatic
- (f) Music
- (g) Painting and sculpture.

The change from backward and illiterate Russian soldiers into the educated Soviet troops has astonished the world. By 1935 no illiterate recruits were joining the Red Army.

One hundred and sixty-five nationalities make up the Soviet Union. They are given systematic military, cultural and political education. They are taught that as a people's army it is their duty to help the people in all their difficulties. (If for instance a collective farm is behindhand in its sowing or harvesting programme, the Red Army goes to its rescue.)

In order to keep the Army in touch with the people, factories and theatres and all sorts of civilian organisations have become patrons of Regiments. A trade union

delegate would often travel by air to the Far East to be the guest of some Red Army unit.

Newspapers, clubs, theatres and cinemas are provided for the Red Army and run by them. Army personnel give theatrical performances for small towns and villages away from the beaten track and even provide travelling libraries in lorries. The wives of the Red Army men and commanders organise themselves to make the barracks more pleasant and also join in theatrical presentations. Bonds of affection are therefore strong between the soldiers, their commanders and the civilian population. One of the yardsticks to measure the enthusiasm of the soldiers is the number of desertions. In the Red Army they were 7.5 per cent in 1923, 5 per cent in 1924 and 0.1 per cent in 1926.

Barracks, food and clothing of the Soviet troops are excellent. They are provided with water jugs, mirrors, wash-stands, artificial palms, smart tents, clean bed-sheets and pillow-cases, towels and well-washed wooden floors.

Between 1941-44 the Red Army in the front received more than 3 million books, 3 million leaflets, hundreds of millions of pamphlets, new papers and magazines.

The Red Army papers are published in several languages such as Ukrainian, Byelo-Russian, Kazakh, Latvian, Uzbek, Lithuanian, Tartar, Esthonian, Tagjik, etc.

The military co-operative system has created retail shops, communal feeding, barber shops, and tailoring and bootmaking establishments. In 1935 it had 1,700 stores, 800 restaurants, 1,000 industrial enterprises and had a turnover of a billion and a half roubles.

The soldier benefited from the libraries of Soviet Russia which in 1939 contained 75 books for every 100 inhabitants of the Union. (The number of students grew from 24 million in 1934 to 33 million in 1939. Engineering students from 8,000 in 1933 to 31,000 in 1939).

THE ARMAMENT INDUSTRY

The Russians do not allow wishful thinking to enter into the scientific analysis of any problem. Nor do they drown such problems in a flood of oratory. They realised from the outset that they were industrially backward and were dependent for the armaments on other countries. This would not do in a future war. Therefore in 1927 they began to build their army as a self-sufficient war machine. There was a country-wide discussion for 18 months and as a result on 3 April 1929 the first five year plan was launched. The object of this plan was to establish an industrial system mainly for providing an armament industry.

Russia decided to be completely self-supporting in every way and made the following plans:—

- (a) To develop her raw material deposits.
- (b) To establish heavy and machine-building industries.
- (c) To produce armaments.
- (d) To make purchases abroad for her industrial needs.
- (e) To sign agreements with foreign countries to secure technical assistance.

The first five year plan finished 9 months ahead of schedule in December 1932 and largely solved the problem of machinery and electrical equipment by producing a number of caterpillar tractors, electric cars, and high-powered locomotives. Another problem partially solved was the production of aluminium and synthetic

rubber, ferro-alloys, various types of special steels, and the development of vanadium. Russia spared nothing for the production of tanks, planes, warships and ammunition.

The following tables will show the progress she made between 1928 and 1932 in developing certain raw materials:—

			1928	1932
Copper (thousands of tons)	..	..	28.3	85
Zinc ..	..	..	3.15	77
Lead ..	..	..	2.97	38.5
Aluminium ..	..	..	..	5
Coal (millions of tons)	..	..	35.5	75.3
Oil ..	..	..	11.7	21.7
Peat ..	..	..	7.2	16
All Hired Labour (Thousands)..	..	..	11,350	15,764

Only 300 cars were built in 1926 and 500 in 1927. The building of tanks was in its infancy. The state of railways and roads was deplorable. There were few technicians available.

Plans were now prepared to make 10,000 tractors per annum at Putilov Works at Leningrad and 40,000 tractors per annum at a new plant. 130,000 automobiles were being manufactured per annum by 1937. In 1938 Russia was employing 483,500 tractors and 1,958,000 motor trucks in agriculture. There were 570,000 automobiles available (planned 1,700,000 in 1942) and 2,000,000 chauffeurs under training. 4,800 aeroplanes were manufactured in 1938. In 1940 U.S.S.R. produced 20,000 aeroplanes and 10,000 tanks.

At Kuibyshev, on the Volga, two hydro-electric stations with a capacity of 3,400,000 K.W. were under construction in 1939. It was expected that the output of the Ural coalfields would reach 25,900,000 tons in 1942, that of Far Eastern territory 9,000,000 and that of Central Asia 4,700,000 tons.

The U.S.S.R. enjoyed complete self-sufficiency in coal, iron, petroleum, manganese, mica, chromite and potash, 90 per cent sufficiency in sulphur and pyrites, 85 per cent in phosphates, 80 per cent in mercury and 60 per cent in zinc. "Ghost" factories were erected which were duplicates of big factories and plants. Any technical progress introduced in the original factory was immediately copied in the "Ghost". When the Germans invaded U.S.S.R., "Ghost" factories away in rear areas sprang into life with amazing rapidity.

The preparation of skilled labour was a pre-requisite to the industrialisation of the country. During the first five year plan half a million specialists and workers graduated from the various schools and universities. By 1938 Soviet industry employed 27 million workers as compared with 11 million in 1928. The law of Soviet labour reserves designed to ensure a continuous supply of trained workers to Soviet industry during an emergency was passed in 1940. It provided for the compulsory draft of nearly one million youths yearly for training in the complex techniques of modern industrial production. They were supported by the state during a training course ranging from six months to two years, and afterwards guaranteed jobs in industry which they were required to accept for four years.

The foreign trade of Russia was for many years directed in the interests of national defence. She was less interested in buying armaments and machinery abroad than building up her own industry. For instance if U.S.S.R. entered into an agreement with Ford, it was not for the importation of his cars but for the building of a Ford factory in Russia. She also employed thousands of engineers and technical

experts from every country in the world. Russia was determined to be self-sufficient in every way. During 1941-45 she amply proved that she had succeeded in this respect.

THE RED AIR FORCE

"Flying coffins" was the name by which Russian planes were known in the Russian Army in World War I. The first aviation school was established in 1910. Up to 1917 only 2,050 planes and 578 engines were produced. Starting from scratch, without any industry worth mentioning, Russia had 20,000 planes with sufficient pilots in 1941 and a yearly production of about 20,000 planes.

The structure of the Red Air Force is similar to the R.A.F. Three aircraft make a flight, three flights a squadron, three squadrons a wing, three wings a group and three groups an aviation corps.

Personnel serve for three years. Pilots do a minimum of 250 hours' flying before being posted to a squadron.

The Red Air Force can draw upon the flying clubs of which there are about 1,000 in the U.S.S.R. as well as the Osoaviakhim.

In civil aviation the Russian network of air lines was by far the largest in the world by 1940.

Aviation in all its forms was encouraged by the Soviet Union—flying, parachute jumping, gliding, building new models and striving for new records, etc.

The growth of air mail service was considerable. From 5,875 tons in 1935, it rose to 11,517 in 1939. 39,654 tons of freight cargoes were transported in 1939 outstripping the rest of the world. In regularity of flights and frequency of trips only 60 per cent were in accordance with schedule (as opposed to 98 per cent in the U.S.A.)

From top to bottom Russia's population is air-minded. Gliding is most popular. There were 3,000 Gliding "Circles" and 58 clubs in 1939. Out of 14 records for gliding registered at the International Aeronautic Federation 13 belonged to the Soviet. All this proved invaluable when the war broke out in 1941, as the civil aviation organisation was converted into a war machine with little delay.

Russia was the first nation to introduce paratroops into modern warfare. 20,000 men and women mastered parachute jumping in Russia during 1933-35. By 1936 there were 569 towers for parachute jumping and 115 parachute stations. As far back as 1935 during the Red Army manoeuvres at Kiev, an entire division with full war paraphernalia and artillery descended from the skies by parachutes.

By 1936 Russia could produce all the aeroplanes it required with its own resources.

Half a million workers were engaged in the aeronautical industry in 1940. Several new types of aircraft have been designed by Soviet airmen which can be compared with the best in the world.

The valour of the fliers, the extensive training and preparedness of the population as a whole, the unlimited reserves of gasoline and the technical superiority of the Soviet machines have all contributed to the success of the Red Air Force in the Second World War.

Today Russia is understood to be producing nearly 45,000 planes per year by working three 8 hour shifts in her factories and has a total of over 80,000 aircraft in her air force.

THE RED HIGH COMMAND

The Supreme Military Council is at the head of the Red Armed Forces. Its chairman is also the people's Commissar for the Army, Navy and Air Force. Directly subordinated to the Council are:—

- (a) Staff of the Land Forces.
- (b) Military Education Department.
- (c) Navy Department.
- (d) Air Force Department.
- (e) Supply Department.
- (f) Sanitary and Veterinary Department.
- (g) Political Administration of the Armed Forces.

All arms are under a unified command.

RED TACTICS AND STRATEGY IN A NUTSHELL

1. Infantry is the backbone of the army. If the enemy's infantry is smashed, the battle is won.
2. Modern large-scale land operations are a war of mass armies and reserves.
3. The greatest concentration of fire power wins a battle.
4. Mobile warfare without concentration of fire power cannot win any offensive.
5. Crucial operations are always carried out by night. It is no time for rest in war.
6. Modern technical means make it possible to organise a simultaneous attack on the enemy throughout the whole depth of his position, to isolate and encircle him and finally to destroy him.
7. Defensive tactics should be always reversible. As soon as the enemy weakens, defence should become offence. Defence is really only a preparation for a successful offensive.
8. Each arm should be used in closest co-operation with all other arms and under conditions most favourable for developing its possibilities to the full.
9. If an army is defeated by superior numbers and superior weight of modern arms then it would have no possibility of retreat or even flight. It is faced with surrender or destruction.
10. Modern warfare is not like a boxing match in which the better man knocks out his opponent suddenly with one blow. In war an uninterrupted flow of energy and strength is necessary in order to beat the enemy to his knees.

11. All arms must be subservient to the Infantry. The Infantry commander must always remain in supreme command.

12. Flexibility, originality and freedom from antiquated military dogmas are the characteristics of the Red Army.

13. The key to Russian successes lay in their superior training and morale. They believe in attack even while retreating.

SOME SOVIET MILITARY MAXIMS

1. Revolutionary propaganda in the ranks of an Army may achieve political success but is liable to undermine discipline permanently.

2. Strategy must never be developed from the view-point of revolutionaries — or the result is chaos.

3. Naked yearning to say "Something New" does not lead to progress in military thought.

4. Without a first rate Armed Force a nation can neither carry on war nor make peace.

5. A nation may win one war by accident. Victories in several campaigns display inherent fighting qualities of that nation.

6. A special line of strategic behaviour must be developed for each war. The same pattern and the same lessons cannot be applied to future wars.

7. The aim of war is the complete defeat of the enemy. This cannot be achieved without an offensive. It is not necessary, however, to be the first to attack.

8. Privileged position of the soldier is liable to cause discontentment among industrial workers.

IS THERE A DEFENCE AGAINST THE ATOM BOMB?

COLONEL C.L. BARVE

IS there a defence against the atom bomb? Has the atom bomb revolutionized warfare? Has it made other weapons obsolete? Could the Army and the Navy be dispensed with or reduced materially with the advent of atomic weapons? Is it possible to enforce the will of one nation on its enemy merely by atomic bombing?

These and a number of similar questions have been in the forefront in military and scientific circles since the world became painfully aware of the terrible effects of atomic bombing on Japan in 1945. Only two such bombs had been dropped in World War II; one on 6 August 1945 over Hiroshima and the other on 9 August over Nagasaki, killing and injuring over 230,000 people and destroying over 85,000 buildings. Japan surrendered unconditionally on 14 August 1945, thereby ending World War II. To a war-weary and awe-stricken world, the rapid succession of the above events was a singular phenomenon. Japan's surrender was mainly associated with the power of atom bombs and gave birth to a theory, that the atom bomb would be a decisive factor for ultimate victory in a future war. This view gained momentum and popularity especially in political circles, with the birth in June 1946 of the Atomic Energy Commission, which singled out the atom bomb from other types of weapons for control, thereby implying its revolutionary character.

Many enthusiasts are inclined to believe that there is no defence against atomic attacks and put forward the view that with a few atom bombs at its disposal, even a small nation with a small Army can reduce a major power to ruins. These enthusiasts apparently base their reasoning on the immense destructive power of the atom bomb and think that the atom bomb will be a very effective instrument in destroying the enemy's will to resist. Applying the reasoning to the international field, this school of thought believes the new weapon has placed or can place the UNO in a unique position. It is argued that with such a powerful weapon at its disposal, it would be possible for the UNO to enforce the majority will, in case of dispute, on a rebel nation easily and quickly, without precipitating a major war, which it was not able to do prior to the advent of the atomic era. People who considered that World Wars I & II were of very long duration extending over several weary years, are now confronted with the appalling prospect that World War III might only be a matter of a few days. Views have been expressed that the atom bomb, with improved technique, would soon render obsolete the Army and the Navy and that the possession of atom bombs will materially decide the future political set-up of the world, one way or the other.

Such radical views as the above are, in my opinion, based on an incomplete and incorrect valuation of the atom bomb as a weapon. The origin of such a theory is understandable; history provides many instances of similar radical view-points put forward whenever new offensive weapons are discovered. In this connection one need only recall the theory of General Douhet on the impossibility of defence against air attacks or the similar theory of General Fuller in respect of tank offensives, theories which were more or less completely negated by the experience of World War II.

The object of this paper is to try and answer the various questions posed above and to assess the usefulness of the atom bomb in future warfare.

AVAILABLE INFORMATION ON ATOM BOMBS

It must be pointed out at the outset that the technical data on atom bombs at present released is very meagre. The atom bomb is still a secret closely guarded by America and is likely to remain so for some considerable time.* The information available, however meagre, is extremely useful and will form the basis for arguments. It is advisable to base our estimates on available facts however insufficient, rather than on arguments conceived in the abstract.

Following is a summary of the results of atom bombs used so far in war and in experiments, as far as I could ascertain:—

- (a) Weight: All-up weight is a secret, but may be between six and ten tons. It was hinted in 1946 that B-29 was the only existing bomber capable of carrying the atom bomb. B-29 carries a maximum bomb load of ten tons.
- (b) Effect of explosion in the Static Test in New Mexico (16 July 1945): The bomb was set off after placing it at the top of a steel tower, in cloudy and rainy weather at 0530 hrs on 16 July 1945. A blinding flash resulted on explosion and a hill range three miles away was seen lit up for 3 secs in bold relief. The whole countryside around was lighted up by a searing light with an intensity many times that of the midday sun. A huge red hot cloud rose to a height of 40,000 ft from the point of explosion. Two supplementary explosions of minor effect occurred in the cloud shortly after the main explosion. The steel tower was completely vapourised and a huge crater was formed in its place. At the observation post 17,000 yds away the shock waves reached 40 secs after the time of explosion. Cities 100 miles away felt the earth quake as the sky lighted up like day; houses shook and glass windows were destroyed in some cases.

The area destroyed was about a third of that resulting from the mid-air explosion over Hiroshima. For a maximum area of destruction the bomb should detonate in air, the optimum height above ground being 2,500 ft.

- (c) Effect of explosion in mid-air over Hiroshima: The Uranium-235 Bomb exploding in mid-air over Hiroshima killed 80,000 men and injured 70,000. 4.7 sq miles of area was completely destroyed. The population density of Hiroshima before destruction was 35,000 per sq mile, which works out at a mortality rate of 15,000 and a casualty rate of 32,000 per sq mile destroyed.

The bomb exploded at 08.15 hrs without warning, and 45 minutes after 'all clear' from a previous warning. The surprise, collapse of buildings and resulting conflagration were some of the causes of the unprecedented casualty rate.

Energy was given off in the form of heat, light, radiation and pressure. The complete band of radiation from X-rays and Gamma rays, through ultra-violet and light rays to the radiant heat of infra/red rays travelled with the speed of light. The shock wave which was built up instantaneously at point of explosion moved out at about the speed of sound. Superheated gases constituting the original fire ball expanded in all directions at a slower rate. Duration of flash was only a fraction of a second but was sufficiently intense to inflict third degree burns to exposed skins up to a mile. Penetrating Gamma rays affected the bone

* This article was written before the announcement that Russia has discovered the secret—(Ed.)

marrow of people near the centre of explosion, but the effect took several days to develop, with fatal results.

RCC buildings within 700 ft and brick buildings within 7,300 ft were more or less completely destroyed. Underground utilities (cables and pipe-lines) remained intact. There was no crater formed, and railroads were repaired within two days of attack.

- (d) Effect of explosion on or near ground level, over Nagasaki: In the case of Nagasaki, Plutonium Bomb was dropped, without air raid warning. The Plutonium Bomb is 15% more powerful than the Uranium Bomb. This bomb burst in or near the ground. The city had a population density of 65,000 per sq mile and the casualty rate was 43,000 men per sq mile destroyed. The total number of casualties was however only about 50% of those of Hiroshima in spite of the denser population, due to uneven terrain which protected parts of the city from the effects of the bomb, and the fact that the bomb exploded far below the optimum height for maximum casualties. RCC buildings up to 2,000 ft and brick buildings up to 8,500 ft were destroyed. One remarkable feature was the fact that about 400 people who were at the time of the bombing in the tunnel shelters survived including those who were in tunnels near the point of explosion.

A crater of considerable size was found around the point of explosion.

- (e) Effect of explosion under water: Such an explosion as tried out at Bikini in July 1946 rendered the surrounding water dangerous due to the intense radio-activity which remained for several months in the water and on the ships which had been deluged with such water. It would kill all living things which have to remain under such conditions for any length of time.

The intensity of radiation produced was equivalent to many hundreds of tons of radium.

- (f) Power of the atom bomb: From careful surveys of the observed effects it is estimated that one Plutonium Bomb will do approximately the same damage as some 2,000 tons of ordinary bombs properly distributed over the target and having a proportion of high explosive, incendiary and fragmentation bombs, according to the nature of the target. If exploded over an average town of concrete and brick buildings, the bomb will cause severe damage over an area of approx 8 sq miles, whilst when exploded on or in the ground, casualties due to blast effect may be smaller than in the case of mid-air explosion. Theoretically, the Plutonium Bomb produces the same blast wave as would be caused by the detonation of 20,000 tons of TNT. The reason why the 'effective' equivalent figure of 2,000 tons of ordinary bombs as given above is very much lower than the theoretical, lies in the fact that the atomic explosion pulverizes the objects in the central parts of affected area to a quite unnecessary degree and so wastes a large part of energy. At Hiroshima, bodies were charred by flame beyond recognition in a considerable area around the explosion point.

In official documents submitted by the USA to the UN Atomic Energy Commission, a Plutonium Bomb is estimated to do the same structural damage as 167 ten-ton block-busters, i.e. 1,670 tons. A tonnage of anti-personnel fragmentation bombs would have to be added to this figure to inflict casualties comparable to those at Hiroshima and Nagasaki, which would be about 500 tons in the former case and 300 tons in the latter.

ATOMIC VERSUS ORDINARY BOMBS

A fully comprehensive comparison of atomic with ordinary bombs is hardly possible during the present stage of secrecy regarding the former. However, a study

Of available facts regarding the atom bomb leads to certain important deductions including the following :—

- (a) It has an immense power of destruction, equivalent to some 200 ten-ton bombs. The bomb has no missile effect but has the unique feature of producing during explosion large quantities of radio-active materials having fatal 'delay-action' effects.
- (b) In view of its great destructive power, active defence by fighters and AA assumes supreme importance. The need for maintaining mastery of air and defence in depth seems to be an indispensable feature of strategy in defensive warfare against this weapon.
- (c) The bomb needs heavy craft to carry it. As such, an atom bomb carrier, with its comparatively less manoeuvrability is likely to be more vulnerable to active defence than lighter types of bombers.
- (d) With negligible opposition and about 8 sq miles of target, an atom bomb sortie will be equivalent to 200 HE bombs sorties, but for smaller size targets the relative value of the atom bomb diminishes. For small targets and heavy opposition, the atom bomb offers very little advantage over HE bombs. There are few targets large enough to bring out its full advantage except great cities.
- (e) On a small target, the bomb is far from economical, although a greater aiming error is permissible on account of its wider range.
- (f) Due to its vast area of destruction and production of fatal radio-active materials, the bomb has very limited applicability in a tactical role in close support of ground troops. In operations carried out in friendly countries (such as Allied land operations in France in 1944) its use as a tactical weapon is fraught with danger, as it will kill far too many allies.
- (g) As a strategic weapon against the enemy's military and industrial installations, its use would result in almost all cases in wanton damage, due to the fact that these are in a majority of cases located close to big towns.
- (h) Effective passive defence is possible by way of well-built underground shelters and above ground RCC construction for dwellings and factories.
- (i) Due to its high destructive power, the atom bomb appears to be a more effective weapon for terror attacks than ordinary bombs.

STRATEGICAL AND TACTICAL USES OF THE ATOM BOMB

The strategical and tactical uses of an atom bomb of the known type are rather limited. In most cases industrial units such as oil installations, factories, etc., as well as ports and railway centres are situated close to cities and towns and as such any atomic bombing on such installations would be inevitably accompanied by extensive damage to civilian life and property in view of the atom bomb having a very large area of destruction (approx. 8 sq miles). Whereas a precision attack on an industrial target is possible with the ordinary bombs without causing much damage to adjoining populated areas, this is not so with an atom bomb of the type used in the last war. This limits the value of the bomb as a strategic weapon in the real sense of the term, and it very nearly becomes a weapon of mass destruction. Mass destruction of cities and towns is quite possible on a large scale with a few atom bombs, provided, of course, they are allowed to reach the targets.

On the other hand detached military installations such as advance long range bomber bases with their long runways and parked craft provide a very suitable target

for atomic bombing without risk of wanton destruction of civilian life and property, as such installations are usually well away from civilian towns. With an atom bomb exploded on or near the ground level, the radio-activity remaining around the place of explosion would prevent repairs to and re-use of such bases for a long time. It has been recently reported that the site used for the first atomic test when the bomb was exploded in New Mexico, is not yet completely free of radio-activity, after a lapse of nearly 4 years, although the residual activity was regarded as 'harmless' for cattle. Whether it was harmless for human beings was not stated.

In its present form, the bomb could hardly be used as a tactical weapon for close support of a land army. The area of destruction is far too great besides the fact that there is a distinct possibility of the destroyed area remaining radio-active for a long time. No military commander dare risk taking his troops and equipment through such an area immediately after it has been subjected to atom bomb action, and expose them to the fatal effects of radio-activity.

BOMBING OPERATIONS CONDUCTED DURING WORLD WAR II

It would appear from the foregoing that compared to ordinary bombs, an atom bomb in its present form may not be a very suitable weapon for strategic or for tactical operations, but its immense superiority as a terror weapon and a weapon of mass destruction cannot be disputed. The question of determining whether an atom bomb would be a decisive weapon in a future war therefore boils down to consideration as to whether terror attacks will by themselves bring decisive results in a major war. In this connection, it will be very instructive to study briefly the bombing operations carried out in the last war and the role which mass air attacks played in shaping the conduct of the war. Fortunately, details of bombing operations carried out in World War II have been systematically reported, recorded and analysed in detail in the United States Strategic Bombing Survey Reports, a study of which gives a clear insight into the problem. Following is a brief summary :—

- (a) Bombing Operations by Germany : It is well known that the German bombing of UK cities had no appreciable effect on industry nor did it affect the course of war to any marked extent. In fact, the Germans never believed that strategic bombing deep into enemy territory would bring decisive results and there is ample evidence to show that the German Air Force was designed primarily to fill a tactical role and in particular in close co-operation with land forces. Success of the GAF (German Air Force) resulted from its tactical use and the invaluable support it gave to the German Land Forces in European operations. No doubt there have been instances of indiscriminate attacks on cities such as Warsaw, Rotterdam, Belgrade but primarily decisive results obtained in Europe were by the land armies supported by the Air Force. Air Marshal Sir Arthur Harris in his book 'Bomber Offensive' says that the GAF had in fact very few strategic bombers at the time of the Battle of Britain in August 1940 and was only used on the UK cities when not required to support the German Army.

During the war with Russia, attempts were made to bomb Moscow and other cities at the outset, but these failed and were abandoned after a few months in favour of tactical support.

- (b) Allied Bombing Offensive over Germany : Unlike Germany, it was Britain who first planned a campaign of strategic bombing for achieving decisive results by air power alone. This was a long range policy decided many years before the war, and the RAF had been a trained force more for strategic bombing operations, than for tactical co-opera-

tion with the Army, at the beginning of World War II in 1939. For a number of technical reasons, the initial Allied bombing operations were far from successful, widely off the target and appeared indiscriminate to the German people. Instead of aiming at military or industrial installations, 'strategic bombing' gradually changed its character into what is known as 'area attacks' or 'terror attacks' on cities and towns.

The Allied attacks on German cities commenced in May 1940, and continued till early 1945. It is however remarkable that the German war production was actually on the increase till August 1944. The weight of bombs dropped over Germany increased progressively from 30,000 tons in 1941 to 600,000 tons in 1944. Measured in terms of atom bombs, the air attacks increased from 15 in 1941 to 300 in 1944. During the same period, in spite of the heavy attacks, the total German war production rose from the index figure of 100 in 1941 to 146 in 1942, 229 in 1943 and 285 in 1944. During this period the German aircraft production actually increased three-fold, and the tank production five-fold. According to the U.S. Strategic Bombing Survey Reports, the estimated figures for the loss of production due to mass attacks ranged from 2.5 per cent in 1942 to 17 per cent in 1944, a loss which could hardly be expected to bring decisive results by mass attacks alone. It is, however, to be noted that certain industries singled out for attack, *e.g.* synthetic rubber and aviation spirit, suffered a decline of production since March 1944. The general fall of production since August 1944 was not due to destruction of factories or demoralisation, but was mainly due to dislocation of transport systems which adversely affected distribution of coal and due to shortage of oil.

The great strategic bombing campaign was launched in the Summer of 1942, and lasted till April 1944. The 1000-bomber raids on Cologne and Essen and raids on Hamburg were among the most devastating. But in spite of these devastating raids causing huge loss in men and material, the cities again sprang up as economic units within a few months of bombing. In air raids over Hamburg in July-August 1943, over 60,000 people were killed (compare result of the atom bombing of Hiroshima) and one-third of the houses destroyed, but within five months production went up to 80 per cent of the pre-bombing figure. These figures demonstrated the surprising resilience of German towns and their ability to recover from devastating air raid attacks.

During 1944 and 1945, precision attacks on transportation systems and oil factories were possible partly because of technical developments in bombing craft, nearness of operating bases (France) as well as due to partial mastery of the air. Precision bombing on oil installations and transportation systems achieved important military results without inflicting widespread destruction. On the contrary, it would appear that the earlier strategic bombing on cities did little to help win the war, though causing tremendous destruction.

- (c) Bombing Operations by Russia: The Russian view appeared to be the same as the German view. Very few cities were ever destroyed by Russian bombers during the Russian advance. In the Soviet-Finnish War 1939-40 the Russian Air Force hardly carried out terror attacks on Finnish towns. According to Kjellberg, a Swedish writer, who published an analysis of the Russian Air Strategy, the Russians made rather an abrupt change in policy about 1936 abandoning long range heavy bombers in favour of short range bombers and fighters for affording close support to land armies. Perhaps the Soviet considered

that strategic bombing might not be very effective when dealing with a strong enemy possessing an efficient land army. It may be recalled in this context that by 1936 Germany had practically emerged as a major power and had embarked on a heavy rearmament programme.

- (d) **Bombing Operations in the Pacific War :** Japan used the Air Force in a tactical role in conquering South East Asia and the surrounding islands. The Japanese expansion drive was first arrested in May 1942 with its first defeat by the USA in the naval battle of Coral Sea. From 1942 onwards the Jap merchant navy continued declining and by the end of the war was hardly 10 per cent of pre-war figure. Japan's industry suffered heavily by blockade of imports. American counter-offensive threw up a cordon around Japan and by early 1945, air assault on the mainland became possible. Oil imports were completely cut off by March 1945 when the Jap Navy ceased to exist.

The first devastating raid on Tokio occurred in March 1945. Between March and August 1945, over 100,000 tons were dropped on various Jap cities killing some 200,000 people. It is the opinion of the US Bombing Survey that by August 1945, the war production in Japan would have dropped by 50 per cent even without air attacks on cities. By March 1945, the Jap defeat had become certain with the cutting off of supplies alone, and in the view of the Survey, Japan would have surrendered even if atom bombs had not been dropped. The country had already been on the verge of economic collapse and the Russian entry in the Far Eastern War in August 1945 (a fact almost forgotten in the world sensation caused by the birth of the atom bomb) had irrevocably sealed the Japanese fate. It would thus appear that dropping of the atom bombs on the defenceless cities of Japan without warning could hardly be regarded as having been directed by military necessity. Japan was beaten even before the advent of the atom bomb.

The above analysis will give an idea as to whether bombing by itself could achieve decisive results especially in a major war. The well-known theory associated with the Italian General Douhet that terror attacks would result in unconditional surrender has already been exploded in World War II. It is difficult to see how mass attacks conducted on enemy territory independent of land operations could bring a major power to its knees, however devastating their results might be, unless the enemy has, in effect, been already defeated as happened in the case of Japan.

ACTIVE DEFENCE

In view of the huge destructive power of the atom bomb, active defence against it by means of fighter planes and anti-aircraft guns assumes special importance. It appears that the best defence against atom bombs is to shoot down the carrying craft either at the bases or during flight before the target is reached. Means of detection and interception of bombing craft are making great strides and fully equipped fighter planes should normally be depended upon to do the job. Technical developments in any branch of air warfare such as speed increases, detection, interception, etc. are likely to be translated into practice in a smaller aircraft more readily than in the larger type and hence it is safe to assume that a fully equipped fighter would always be technically in advance of bombers, and therefore able to overcome it, in favourable circumstances.

In an air war in which atomic bombing is a possibility, the first task for the defender would obviously be to try and destroy the bombing bases. As the atom bomb carriers are bigger types of bombers requiring very long runways, such bases should serve as ideal targets for bombing, either atomic or ordinary.

This of course presumes that the atom bomb will be carried by a piloted bombing craft. Carriage by pilotless aircraft or rockets similar to the German V1 or V2 weapons but of far greater sizes is possible but these weapons would have appreciable aiming errors, and low speeds compared to piloted craft. The German V1 weapon carried one ton bomb load at a distance of 200 miles with an average aiming error of 5 miles. The German V2 weapon (Rocket) had a similar capacity, range and error though it was faster. It is safe to assume that no pilotless aircraft or rocket is likely to be useful for launching atomic attacks at a range of say 1,000 miles or so on a small target, for some years to come. Moreover, these carriers, deprived of the human element, would be perhaps easier to tackle than the piloted subsonic bomber.

Defence by AA Guns of the current types will be valuable, though guided missiles with proximity fuzes are likely to be more effective especially in dealing with high flying atom bomb carriers.

It is to be borne in mind, however, that any stray bomber which could dodge the fighter defence would do comparatively far more damage when carrying an atom bomb than when carrying ordinary bombs.

PASSIVE DEFENCE

Passive defence will take the form of tunnel shelters and reinforced concrete houses of design similar to earthquake-proof construction. The most instructive feature of the Nagasaki bombing was the survival of the few hundred people who were in tunnel shelters even near the place of explosion. Carefully built shelters in both the Japanese cities stood up well.

Careful study of RCC shells still standing above the rubble in both the atom bombed cities, tends to show that it would be possible to erect dwelling-houses and industrial houses which would give protection at a distance of about 2,000 ft from the explosion point. Such structures would be similar to earthquake-resistant construction costing approx. 15 to 20 per cent more than the ordinary RCC building.

Open slit trenches are useless for passive defence against atomic attacks as they offer no protection against the effects of heat and radio-activity. Dugouts with sand-bag roofs would be a slightly better arrangement.

THE ATOM BOMB AS A DECISIVE WEAPON

It will thus be seen that the waging of an atomic war against a vigilant nation equipped fully for active defence, cannot by itself be decisive. In the event of war between two major nations, there would naturally be a popular clamour and demand to use atomic weapons at the start, but there may be very strong military reasons against such action. Supposing a few cities or a few industrial concerns of the enemy are destroyed with sustained atomic raids even at a heavy loss rate, what happens next? Unless a strong land force is available to invade, defeat the enemy land forces and occupy the enemy territory, atomic bombarding would remain inconclusive. The attacked nation, on the other hand, is bound to retaliate, try to occupy the surrounding countries by land operations with a view to increase depth in defence, and concentrate on destroying the atomic bases. It would aim at occupying bases and would liquidate intervening territory if militarily strong to do so and eventually come to grips with the enemy in a land (or sea) war. This would mean a long-drawn-out affair, not very much unlike the previous world wars, and far from a war of the 'push button' type lasting only for a few days or weeks.

In the event of a conflict between a small power and a neighbouring major power, the possibility of atom bombs being used can be almost ruled out. The major power would be interested to occupy the enemy territory in as little damaged a condition as possible and is not likely to resort to atomic bombing. The small power will likewise think twice before using the atom bomb for fear of repercussions from a powerful enemy bent on vengeance.

Similar considerations tend to support the view that the UNO ownership of atom bombs and threat of their use against a rebel nation are not likely to be conclusive by themselves when applied against a major power or against a small nation backed by a major power. The atom bomb has neither revolutionized warfare, nor opened the possibility of placing a decisive weapon in the hands of the UNO or a member nation. Far from making the Army and Navy obsolete, there will perhaps be need for a stronger Army and Navy to protect the bases from which atomic attacks are launched and to follow up the atomic destruction by tactical operations. It appears that land operations would still remain an indispensable feature of future wars as in the past.

USE OF THE ATOM BOMB IN THE LAST WAR

At this stage, readers may ask, "If the atom bomb is not a decisive weapon, how did it prove so in the last World War?" As already stated, the answer is that Japan had already been practically defeated months before the dropping of atom bombs. The Japanese imports had been stopped, her merchant lines crippled and her Navy had ceased to exist. In July 1945, Japan had gone so far as to make tentative peace proposals through Russia. The entry of Russia on the side of the USA made the position utterly hopeless. Under such circumstances one may feel, ironical as it may seem, that to Japan the atom bombing was a boon in disguise. It admirably paved the way out for the Japanese and provided a unique face saving device for agreeing to surrender, without further destruction and without having to face the tragedy of the Japanese Army being beaten on land. On the other hand, use of such a destructive weapon without warning on undefended cities, when Japan was already more than half beaten, could have hardly been actuated by military necessity. One would have thought that under the circumstances then prevailing, when success was certain, the USA should have made known to the world the discovery of the weapon, demonstrating its unique destructive power, before unleashing it cruelly on the innocent people of the two Japanese cities. After a demonstration, it would have been legitimate to use the atom bomb when Japan had been given an ultimatum to surrender and had refused. Such a course might possibly have had the desired effect and would have saved the lives of over a lakh of men killed in the two raids. Alternatively, it seems rational to suppose that the Russian offensive against Japan which commenced on 8 August 1945 as a part of the Allied war strategy should have been allowed to run its course before resorting to new weapons of mass destruction. But for reasons, perhaps other than military, America thought fit to use the atom bombs without adopting any of the above courses.

The first successful experimental test was carried out on 16 July 1945 in New Mexico and barely 21 days later the bomb was actually used over a thickly populated city. This is the first instance of its kind when a newly discovered source of power was used for destruction within such a short time of experimental test. This haste could perhaps be attributed to the fact that there was a distinct possibility that Russia which entered the War on 8 August 1945 would, with its vast and superior land armies, have defeated and occupied Japan within a few weeks of her entry in the arena, in any case earlier than the expected American invasion of the Japanese homeland. One way to prevent this happening was to use the powerful destructive weapon and demand immediate surrender to America. This proved a complete success.

If this reasoning is accepted, it follows that perhaps the dropping of the atom bombs was not so much the last military act in the last war as the first political act in the present cold war.

DESERT EPISODE

BRIGADIER B.S. BHAGAT

IT is 24th November, 1941. General Auchinleck's advance of the Eighth Army westwards in the Western Desert has begun. Months of preparation and hard work have preceded this advance. Supply, ammunition, petrol and ordnance dumps have in anticipation been formed forward of roadhead. These have been skilfully camouflaged and hidden so as not to arouse the suspicions of the enemy. 13 and 30 Corps have been given their detailed orders. Generally 13 Corps' tasks are to reduce the German garrisons around the old Egyptian frontier south of and including Halfaya Pass; while 30 Corps is to make a wide sweep towards the south and lure and destroy the German Panzer divisions in the vicinity of Sidi Rezegh south of Tobruk.

Headquarters 4 Indian Division is established at Bir Shefferzen about 10 miles south of Sidi Omar which is a strongly fortified German position. One of the Division's Brigades—7 Infantry Brigade—has already attacked the eastern portion of Sidi Omar (Nuovo Omar) and captured it after encountering very strong opposition. The western part of the Omars—Libyan Omar—is still holding out. The Germans had prepared the Sidi Omar position for all-round defence and had heavily wired and mined it. Headquarters 4 Infantry Division is chiefly concerned with the reduction of the Omars and other German positions north of them. The remaining two Brigades of the Division are still in the rear and are expected up shortly.

As the sun rises on 24th November 1941, it is known that a big tank battle is in progress in the 30 Corps area. Headquarters 4 Infantry Division is carrying on its normal routine in operations. Situation reports keep coming in about the happenings all over the front. A news flash comes in saying that the tank battle is not turning out very successfully for us. One of the South African Brigades has been badly mauled by the Panzers near Sidi Rezegh. Hardly an hour elapses after we receive this news when we suddenly see in the west a great cloud of dust which is rapidly coming nearer. Soon we can make out allied transport moving as fast as they can go in an easterly direction. There seems to be no order about their movement. They stream through our Headquarters as if it did not exist. A 3-ton lorry is going past me and I stop it with some difficulty. Its driver, a Sergeant, looks panic-stricken and is the only occupant of the lorry. "Where are you going?", I ask. He replies hurriedly, "I don't know, Sir, but the Germans are after us. Jump in Sir". When I decline, he crashes in his gears and accelerates off as fast as he can to the east. It is evident that some kind of panic has set in in the west. Orders are immediately given that no 4 Division Headquarters vehicle is to move without the express orders of an officer.

We all are now on the *qui vive* and are wondering what is to happen next. There is suddenly a roar in the sky and we see a dozen or so planes approaching our Headquarters flying very low. We run to our slit trenches but soon find out, to our relief, they are our own planes. They fly low over our Headquarters, twisting and turning, obviously searching for something. They remain in the area for about five minutes and then fly off. Quiet descends again and it looks as if things are going to settle down when without warning at about 1600 hrs a stream of tracer bullets scream through our camp. Nobody knows where they have come from or who is firing them. The mystery remains unsolved till the next day. Obviously things are not all that they should be and orders are given that Headquarters is to be prepared

for an immediate move. Preparations are made in double quick time. We feel rather naked and undefended as there is only a Troop of Lt AA guns and a Troop of an Anti-Tank Bty available for the local defence of our Headquarters. This does not seem much if our apprehensions, that one of Rommel's Panzer columns, has broken through and is in the vicinity, are correct. Darkness rapidly approaches. Preparations are more or less complete for the move. Very lights and flares can now be seen all round us. It is impossible to say whose they are or where the enemy is. The problem is where is Headquarters to move to? Someone gets a brilliant idea. Why not go to the Omars? Part of them have already been captured by 7 Brigade. They are heavily mined and wired and prepared for all-round defence and best of all we shall have the protection of the whole of the Brigade together with a considerable amount of artillery which is located there. We feel sure that we could give a very good account of ourselves if the Panzers attacked us there. The idea is adopted. It is now 8 p.m. and completely dark. A kind of rumbling noise is heard; soon we can distinguish it as the noise of a tank approaching and a few minutes afterwards we can see the outline of a tank coming towards our area. Have the Panzers come or is it one of our own? With some little trepidation some of us go forward to the tank and breathe a sigh of relief when it turns out to be one of our own. It is a Crusader tank and looks rather battered. A figure emerges from it. It is an officer looking rather weary and decrepit. The first question he asks on seeing us is, "Are you Anti-Tank Gunners?" We reply, "No, we are Div HQ". "Good God!", he says, "what are you doing here. The Panzers are following very closely. You had better be off as quickly as you can make it". That is enough. Orders are given for an immediate move. Seldom has the HQ moved so quickly. Experience stands us in good stead. There is no confusion. Everyone knows his place and very quickly and efficiently the move begins. A guide is in the front and he has the most difficult task. No lights can be shown and there are the mine-fields of Sidi Omar to negotiate before we can reach the safety we seek. It is a dark night. The stars are bright and all round us the ubiquitous Very lights and flares seem to keep following us. It is an eerie spectacle and rather trying for one's nerves. It is difficult to say how far these lights are and how far the noise of our move is carrying. We all realise how true the old saying is that the desert has no flanks. The enemy may be anywhere.

One of our wireless vehicles develops engine trouble. In spite of our best efforts it cannot be re-started. We try to tow it, but have to give it up as impossible. We have to abandon the vehicle. The men travelling on it are transferred to other vehicles, but we have to leave one of our precious No. 9 sets behind. We make a mental reservation to try and recover it later if possible. The move continues. In fact it seems never ending. It is cold and the Very lights are still there. The night is so dark that the drivers can see practically nothing. Vehicles have to be kept closed up so as not to get lost. The move seems interminable. Every noise is exaggerated and seems to be that of enemy tanks approaching. All of a sudden the vehicle in front seems to be going a little faster and then stops. Voices are heard. "Yes! we have arrived". We are going through the mine-field and 7 Brigade has sent us guides to see us safely through. Soon we hear the challenge of the sentries and the reply. We are through the mine-field and inside the defences of Sidi Omar. We are all tired and cold. All the vehicles are more or less on top of each other and closely packed. We cannot, however, disperse now, but this must be done early in the morning as we are ideal targets for enemy bombers.

We bed down by the side of our trucks. It is bitterly cold and the long and cold night drive has taken its toll from most of us. We are tired and fall off to sleep fairly quickly. It seems as if we have just fallen asleep when we wake up to the screams of shells passing overhead and explosions all round us. We soon realise that we are being shelled from an enemy 150 mm battery from a neighbouring position. Seldom has dispersion been carried out so rapidly. The shelling stops and soon order is again created from apparent chaos. HQ 4 Division is established and

soon assumes its proper shape. Work commences. Communications are established and soon one can see parties of Signallers laying their local cable lines connecting the various parts of the HQ to the Signal Office. A signal comes in and the mystery of yesterday is cleared. The tracer bullets which went through our camp in the afternoon were German ones. About 30 German Mk IV tanks had broken through our forward troops and captured a Main Dressing Station at about 1700 hrs yesterday. This MDS was located only a mile away from where our Headquarters was at Bir Shefferzen. The bullets that came through our camp were evidently machine-gun bullets from these Panzers as they were overrunning the MDS. We feel sorry for the patients and the personnel of the MDS that have been captured but feel relieved that the Panzers had not come one mile further north which would have meant a similar fate for us.

How the Panzers attacked our new position the next morning, how they were beaten off and had to retreat leaving behind the MDS that had been captured and the account of our advance to Benghazi is another story.

St. Dunstan's

The training centre known as St. Dunstan's Hostel for Indian War-blinded at Dehra Dun has been transferred from the charge of the Ministry of Defence to the Education Ministry.

This has been done in order to extend the facilities which have been available at this Institution for the war-blind to adult civilian blind persons. Though now the entire blind community in India will be benefited by this centre, the war-blind will continue to enjoy full advantage there and, in fact, have priority of admission and training.

St. Dunstan's, India, which holds in trust funds for the resettlement, general welfare, and life-long after-care of the war-blind who have been trained at the Doon centre, will not cease to exist. It will continue to look after the interests of the war-blind, as hitherto, and provide them different vocations during the rest of their lives.

Donations for this benevolent and humanitarian work will be gratefully received by the Honorary Secretary, St. Dunstan's, India, care of the Ministry of Defence, New Delhi.

THE INTER-SERVICE STAFF COLLEGE *

LIEUT.-COLONEL C. G. BUTCHER

THE Inter-Service Staff College at Wellington in the Nilgiris is probably the most important military establishment to be set up in India since the partition of the armed forces of British India in August 1947. It is also unique in that it is the only Staff College in the Commonwealth and possibly in the world—we do not know the U.S.S.R. system of staff training—which trains junior staff officers for all the three Services with a separate syllabus for each, but with a centralized combined programme for common subjects and all those that have an inter-service complexion. True the Joint Services Staff College, established in the United Kingdom since the war, trains officers of all three services, but there is a common syllabus and the output goes to fill senior staff appointments. This Inter-Service aspect of staff training for the three services is a logical sequence to the common basic training given to potential officers at the Armed Forces Academy and should go a long way towards eradicating the inter-service mistrust and jealousy so prevalent in peace time in the Armed Forces of the nations.

It is of interest to examine how the College came into existence. Prior to 1947 Staff Officers for the R.I.N. and R.I.A.F. were trained at the Royal Naval Staff College, Greenwich, or the R.A.F. Staff Colleges at Andover and Bracknell, these Services having no such institutions of their own in India. The British Indian Army—thanks to the drive of Lord Kitchener during his tenure of appointment as Commander-in-Chief—opened its own Staff College at Deolali in July 1905. 'Drive' is the operative word since the College was first proposed in 1875, but for various reasons failed to materialize until thirty years later. In 1907 the College moved to Quetta where accommodation was specially built for it in a self-contained area outside the Cantonment as it then existed. On the outbreak of World War I the College, following the example of its parent at Camberley, closed down, the buildings being used for a Cadet College to train British Officers for the Indian Army. It is a coincidence that a second Cadet College was formed at Wellington to train alternate intakes of Cadets from the United Kingdom. Quetta re-opened as a Staff College in 1920 and on the outbreak of World War II, profiting by past errors, expanded very considerably to cope with a requirement of Staff Officers many times in excess of the normal peace-time demand. By August 1947 the Quetta Staff College had built up an atmosphere of permanency, combining comfortable and picturesque gardens and buildings with efficiency. There was a splendid library and a mess unequalled in the sub-continent. This process was assisted by the Quetta earthquake of 1934 which, though it did not affect the Staff College area, resulted in the building of a new and modern earthquake-proof mess and several new residential bungalows.

On the creation of the new Dominions of India and Pakistan, it was decided to divide the assets of the Quetta Staff College. Very naturally Pakistan was to receive the lion's share, since they inherited all the indivisible immovable property in the shape of buildings, gardens and surroundings.

By a ruling of the Joint Defence Council it was rightly decided that the Library could not be divided and it was allotted to Pakistan in view of the Army Headquarters

* This article was originally written early in 1949 under the title of "The Indian Army Staff College". It was afterwards revised, so as to bring the story up to near the end of 1949, through the courtesy of the Commandant, Inter-Service Staff College. (Ed.).

Library at Delhi and Simla being given to India. As a result, India's share of the assets was virtually confined to two-thirds of the pictures, silver trophies and cutlery. As to personnel, India naturally acquired those who opted for service with that Dominion. These included Colonel S.D. Verma, a GSO I; Mr. Dhody the College Printing Contractor; and the majority of the Mapping Department staff under the leadership of Mr. Gopal Das.

This small nucleus came to India, and Colonel Verma, appointed a Brigadier, was instructed to reconnoitre vacant accommodation at Wellington with a view to ascertaining its suitability as a temporary home for the new Indian Staff College. The reconnaissance proving favourable, orders were issued for an army Staff College to be set up to open in April 1948 with a course of fifty students. The College was located in what was known as the Hastings Holiday Home. This consisted of permanent single storey barracks for two companies of British Infantry which during the war had been expanded to accommodate some thousand British Troops on leave. Remarkably little work was required to convert the Home into instructional and administrative accommodation as well as residential accommodation for the other ranks and civilian staff. The Officers of the Instructional or Directing staff were accommodated in civilian-owned bungalows in the Cantonment, and the students in the old British Infantry bachelor officers' quarters and married British Warrant Officers' accommodation, which though small are comfortable. The Officers' Mess was established in the old British Infantry Mess which during the war under the name of 'The Phoenix' had been a recreation centre for British Troops on leave. The only major work necessary was the conversion of the troops' dining hall into a Model Room and the construction of a Central Lecture Hall and cinema known as the Gandhi Hall. Later a magnificent new ante-room was added to the Officers' Mess.

In mid March 1948, Major-General W.D.A. Lentaigne, C.B., C.B.E., D.S.O., arrived from a short visit to England to take over the appointment of Commandant. Himself a former student at Camberley, instructor at Quetta and graduate of the Imperial Defence College, he brought with him a wealth of varied experience as a battalion and brigade commander in Burma and successor to Wingate in the Chindits, Commander of 39 Indian Division, Director of Military Operations at General Headquarters (India), and as Deputy Quartermaster General at Supreme Headquarters during the trying time of partition.

The College opened on 5th April 1948 and included two officers each from the R.I.N. and R.I.A.F., who however did the same course as the army students.

The organization of instruction was broadly based on the Quetta model. Brigadier Verma was early succeeded by Colonel L. Sawhny as Assistant Commandant and Chief Instructor, who in turn has been succeeded by Colonel H.C. Badhwar, M.B.E. Under him are a number of Directing Staff Officers or Instructors including R.A.F. and R.I.A.F. officers. The army Directing Staff Officers are drawn from the British Army, British Officers of the Special List (Indian Army) and Indian Army Officers, and represent all arms and the major Corps and Services, with operational and administrative experience in almost every theatre of World War II.

The Directing Staff are divided into two groups, the Training Team and Syndicate Instructors. The function of the Training Team is to produce and supervise the basic material for instruction in the shape of precis and notes, indoor and outdoor exercises, central and syndicate discussions, plays in the Lecture Hall and models, and to comper the films, which form a large part of the syllabus. The Syndicate Instructors correspond to the form masters or tutors in a School and are responsible for presiding at detailed discussions in their Syndicates, putting over the narrative and problems on outdoor exercises and discussing the merits of the Syndicate's solutions, and finally correcting all the written work of their Syndicates. Each Syndicate consists of some eight to ten

officers drawn from as varied a selection of arms and services as possible. Periodically Syndicates are broken up and reformed so that during the course every student has to work intimately with all the others. The main difference from the system that applied at Quetta prior to partition is that the Directing Staff are interchangeable between the Training Team and Syndicate Instructors Groups. There are in fact no supermen who plan the instruction and then sit back leaving it to inferior mortals in the shape of the Syndicate Instructors to put the subject across. Every member of the Directing Staff is responsible for one or more basic subjects and in turn is struck off syndicate work to enable him to prepare and direct the exercises, models, etc. for which he is responsible, his place in the syndicate rooms being taken by a Directing Staff Officer whose subject has been completed.

The routine in the College on a normal day consists of four hours controlled study in the morning in the form of central or syndicate discussions, plays or models, lectures or films. In the afternoons and evenings students are expected to put in four hours, or more if necessary, private study in their own quarters and read up precis and notes on the work to be done the next morning. This routine is of course broken for indoor and outdoor exercises which last for several hours and in some cases extend for a period of several days. On occasion work on exercises is carried out at a sustained level until the early hours of the morning, and even continuously for 48 hours to accustom students to the high pressure of prolonged staff work in war.

All aspects of the operations of war are studied in the closest detail. The normal sequence of teaching is private study of the basic instructional book, written by an instructor and printed at the College press, a demonstration or play by the Training Team, tutorial discussion under the Syndicate Directing Staff, followed by a T.E.W.T. which almost invariably includes some written work. Special attention is paid to the more modern aspects of warfare such as Airborne Forces and Combined Operations. A great deal of time is devoted to the study of administration (‘A’, ‘Q’, and Movements) and to the functions of the Services. To provide variety, there are numerous films and lectures by outside experts, not merely military, but covering subjects of general educational value, such as World Affairs, Public Relations and the workings of U.N. During the course each student is required to deliver a short lecture on a subject chosen by himself, to give him practice in public speaking. Lastly, towards the end of the course, students are taken to witness demonstrations of such aspects as co-operation between all arms in the attack, visits to ships of the R.I.N., to Ordnance depots and Army Schools of Instruction.

In May 1947 Earl Mountbatten of Burma then Governor-General and Lieut.-General Sir Archibald Nye then Governor of Madras, visited the College and were both convinced that on the score of efficiency and finance it was desirable to convert the College into an Inter-Service Institution to train staff officers for all three Services. Visits by the three Commanders-in-Chief followed, and as a result the third course which opened in May 1949 saw the establishment of an Air Force Wing under a Group Captain, R.A.F., and a Wing Commander, R.I.A.F. Roughly 70 per cent of the instruction given in the Air Force Wing is devoted purely to air matters, the remaining 30 per cent consisting of common subjects such as World Affairs and Psychology in War and all types of Operations of War with an Inter-Service aspect. For the fourth course beginning in 1950 there is to be an R.I.N. Wing and the College will then fully justify its title of Inter-Service.

During the eighteen months that the College has functioned much progress has been made. The jungle that surrounded the abandoned Hastings Holiday Home has been removed and replaced by lawns, terraces and flower-beds. The Library has grown to respectable proportions by the acquisition of the pre-war Senior Officers’ School Library and purchase of new books. It is fortunate that the spate of reputable books dealing with World War II is only now beginning so that

they can be acquired as they are published. The thanks of all connected with the College are due to 'Parkyno' the Librarian at Camberley, who has gone to unending trouble to advise as to what and where to buy. The pictures and photographs brought from Quetta have been augmented by gifts from Army Headquarters. Several regiments and individuals have made handsome presentations of furniture and plate to the Mess, which now compares very favourably with that in Quetta in pre-partition days. Visitors have included the majority of the Senior Officers of the three Services as also Lieut.-General G. G. Simonds of the Canadian Army, and other representatives of practically all the Dominions.

Recently the decision has been taken, after reconnaissance of alternative sites at Poona, Deolali, Belgaum and Bangalore, to locate the College permanently at Wellington and to expand it to take one hundred students for a ten months' course. It will be possible to effect this for the next course by carrying out only minor alterations to the instructional block, and by renting the additional residential accommodation, but a five year building project has been prepared to replace the temporary war-time accommodation that forms the bulk of the administrative block and to concentrate the students' residential accommodation into the Staff College enclave.

This decision to locate the College permanently at Wellington is a wise one. Climatically the area is unexcelled. At an altitude of 6000 feet the temperature has never exceeded 90° and only once dropped to freezing point in recorded history. Fans are, therefore, entirely unnecessary. Malaria is unknown, as are all forms of mosquitoes and other obnoxious insects. The Nilgiris are in the path of both the South West Monsoon, lasting from May to July, and the North East Monsoon from mid October to December, but Wellington is largely sheltered from both and averages only 53 inches of rainfall annually spread throughout the twelve months. Every possible type of terrain is available within an hour's run. The plateau is well roaded, with valleys strongly reminiscent of those in Italy. Bare rocky peaks approximate to the North West Frontier, while others are wooded and resemble Kashmir. The undulating Ooty Downs duplicate Salisbury Plain and the South Downs, while the plains at the foot of the plateau give the wide open spaces of the Punjab and in parts are akin to the Western Desert. The jungles of Mysore are indistinguishable from those of Assam and Burma and several rivers of different width, depth and speed of current afford ample scope for training in river crossings. Cochin, which is destined to be a large R.I.N. Training Centre, is only a few hours distance by train; and Bangalore, the H. Q. of the R.I.A.F. Training Command, can be reached by a night's train journey. Though admittedly a long way from such centres as Delhi in terms of rail travel, it is no worse in this respect than Quetta was in undivided India, and the advent of air travel with a civil airfield at Coimbatore brings Delhi within a few hours' flying by special plane, and undoubtedly also by civil airlines in a few years time.

As to amenities the Wellington Gymkhana Club adjoins the College and provides a very sporting eighteen hole golf course, not to mention tennis, squash, cricket, billiards, badminton and dancing. Hockey and football grounds are available for the College and the inclusion of fourteen horses in the establishment enables all who wish to get a ride once or twice weekly. Other social clubs exist at Coonoor (2½ miles) and Ooty (11 miles) while golf courses are available both at Ooty and Kotagiri (10 miles). The Ooty Hunt flourishes and last season had an all time record of 47 jack killed. Hunt Gymkhana race meetings are held in the spring and autumn, the former following after a four-day meeting sponsored by the Madras Race Club under R.C.T.C. Rules. Perhaps the most striking feature of Wellington is its gardens. Here sweet peas, chrysanthemum, gladiolus, dhalias and innumerable other flowers bloom almost continuously throughout the year, while the vegetables have to be seen to be believed.

Rainbow trout abound in the lakes and streams of the plateau, the record fish topping six lbs. In the sholas or woods bordering the Ooty Downs, tiger, panther,

pig, sambhur, woodcock, and jungle fowl are common, while on the wooded foothills and plains all these plus elephant, bison, snipe, duck and pea-fowl are obtainable.

Further afield the Mysore State Game Reserve at Mudumalai well repays a visit, as tiger and all other types of big game can be viewed at close quarters from the safety of an elephant's back. For those who like bathing and sea fishing, Cannanore with its splendid white sandy beaches, lobsters, oysters and prawns is only distant a night's journey. Mysore (120 miles) is famed for the magnificence and colour of its Dushera celebrations including a ceremonial procession and parade and coloured illuminations in the Krishnarajasagar water gardens.

There can be little doubt but that the Indian Armed Forces have created an asset in the Inter-Service Staff College which will pay high dividends. It can only be hoped that it will be followed in due course by a Joint Services Staff College to train senior Staff Officers, and even an Indian Defence College designed to produce the top flight of leaders both for the Armed Forces and the Civil Administration. Is it too much to hope that all these institutions will likewise be located in the Nilgiris and that they in their turn will lead to the establishment of a retired Officers' colony where the battles of yester year can be refought alongside serious considerations of the future?

Being a new Institution there have naturally been growing pains. Not the least being a postal one. A distinguished guest recently wrote to thank the College for the hospitality accorded to him. The letter took two months to reach the Nilgiris from Bombay, having first been delivered at Wellington, New Zealand!

THE WRITING AND PRODUCTION OF A REGIMENTAL HISTORY*

BRIGADIER C. N. BARCLAY, C.B.E., D.S.O.

INTRODUCTION

AS a part-time occupation the author recently spent eighteen months writing, and assisting to produce, a history of his old Regiment. The period covered was from 1933 to 1946, and included the activities of the Regimental Depot, all Battalions and affiliated Units—Dominion, Home Guard and Cadets.

The author had very little previous experience of writing. It occurs to him that there are many others in a similar position—either in actual process of writing a history or about to do so—and that an account of his experiences, and a few deductions from them, may be of interest. It is also hoped that this article may be of assistance to the members of Committees, and others, responsible for the production, although not for the writing, of similar histories.

As indicated by the title, the article deals with a *Regimental* history, but the general principles, and many of the details, are equally applicable to Brigade, Divisional and other types of military histories. Much of the article is also applicable to the writing of earlier military history, although it is written primarily for those interested in recording the events of the Second World War.

The rest of the article will be devoted to a short description of the sequence of events in the writing and production of a work of this kind—based on the author's experiences in writing the history of an Infantry Regiment.

I

PRELIMINARY CONSIDERATIONS

In practically every case the request to write a history will come from the Colonel of the Regiment, or from some individual or committee nominated by him.

The author's first consideration may well be the question of his own competence to undertake the work. Although the literary technique is within the capacity of most educated people, writing ability alone is insufficient. In the writer's opinion the following qualifications and conditions are necessary;

- (a) Ability to write clear, concise English and draw maps (or adapt existing maps) with sufficient accuracy to enable a professional draughtsman to produce maps from which the plates for the book can be made.
- (b) Sufficient spare time to devote to the work an *average* of about 3 hours per day for a year or 18 months. (NOTE —The author took 18 months, but in different circumstances it could be done in less.)
- (c) Have taken an active part in the War.
- (d) Have served in the Regiment or been intimately connected with it.

Few people will question that (a) and (b) are essential conditions. (c) and (d), if not essential, are highly desirable. Anybody lacking both would be working at a

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very great disadvantage. Service in the war is almost indispensable to a proper understanding of the technical terms and "language" peculiar to every war, but particularly to the one of 1939-45. An intimate connection with the Regiment means first hand knowledge of personalities, Regimental organization and customs which, even after much study, can be only imperfectly understood by an outsider.

Having satisfied himself as to his competence, the author's next step should be to obtain a brief, or in other words a clear understanding of the type of book he is required to produce and the conditions of its production. This can of course be verbal, but it is more satisfactory to get it in writing in the form of simple notes. It is suggested that the following should be included:—

- (i) *Period to be Covered.*
- (ii) *Scope.*—In addition to the various Units of the Regiment—Regular and Territorial—are the activities of affiliated Units, such as Dominion, Home Guard, Cadets, etc., to be included. Is reference to be made to well known Regimental personalities who served outside the Regiment during the period covered?
- (iii) *Length.*—If folding maps are included (as they almost certainly will be), one volume of bold type, on good quality paper, cannot conveniently exceed about 125,000 words or roughly 275 pages.
- (iv) *Publishers.*—Who is to publish the book? It would be out of place to suggest the name of any firm in this article, but it is an obvious advantage to select one who specializes in this type of book, especially the production of maps.
- (v) *Target Date for Completion of the Script.*—It is important not to confuse this with the date of publication, which will depend as much on the publishers as on the author. The tendency is to underestimate the time the work will take. A history of this kind involves much tedious reference to war diaries, private letters, personal diaries and other documents written in the heat of battle, and in consequence often obscure, or conflicting one with another.
- (vi) *Financial.*—Many authors writing the history of their Regiment, or one with which they have been closely associated, will be satisfied with less than an economic fee, or even a purely nominal one. In a matter of this kind each individual must judge for himself. If, however, the market value is to be paid for the work, some difficulty may be experienced in fixing a figure. Authors and circumstances will vary widely and clearly no fee can be quoted as applicable in every case. It is suggested that an upper limit of £1,000, and a lower one of £500 (plus out of pocket expenses, such as typist's charges, stationery, travelling expenses, etc.) for a book of about 125,000 words, with a dozen or so specially-made maps, will cover most cases—except one of an established author of distinction.

The normal method of producing a book—in which the author writes the MS., hands it over to a publisher to produce, advertise, distribute and sell (and pay the author's royalties), is not applicable to a Regimental history. Unless the circumstances are exceptional, the Regiment having got an author will then arrange with a publisher to produce the book at so much for a given number of copies. The publisher will sell in bulk to the Regiment—not direct to bookshops or the public. Normally the author should not have any financial dealings with the publishers.

It will also be as well to have some understanding as to the procedure if the author's efforts do not come up to expectations and the book proves

unacceptable. The chances of such a situation arising unexpectedly will be considerably reduced if he submits it to the Colonel of the Regiment (or individual or committee nominated by him) chapter by chapter. At the same time the author should make clear that *he* is writing the book. Whilst welcoming suggestions, or his notice being drawn to errors of fact, he should not be subjected to irritating criticism in matters of detail, or expected to make amendments to meet the individual idiosyncrasies of the Committee members. It is the author's book and as a general rule it should be either accepted or rejected.

It should be noted that the Income Tax department of a well-known firm of bankers have given it as their opinion that the fee payable for writing a Regimental history must be shown as part of the author's income in his Income Tax return—even if he does not normally engage in literary work. All expenses paid by the author—including a proper proportion of rent, light, fuel, insurance, etc., connected with his house (assuming that he writes the book in it) can, of course, be deducted from the fee.

(vii) *Assistance to Author*—It may be that the Regimental authorities are in a position to place a room at the author's disposal as an office, possibly the services of a part-time clerk or similar forms of assistance.

It may seem unnecessary to put these matters on paper and in many cases a written brief or agreement will be dispensed with. In most cases no harm will result. It is in cases where the original personnel change—through death, illness, change of residence, etc.—that a written agreement may save trouble.

With these details settled the author is in a position to produce his outline plan for the book. This should include a rough "lay-out", including the headings and subject matter for each chapter, maps, illustrations, etc.

Broadly speaking there are two methods of arranging the lay-out:

In chronological order by Chapters, in which case events cannot be recorded in absolute sequence; there is bound to be some departure from the chronological principle because activities described in one chapter will overlap those in another;

or

By units, in which case the book is divided into parts, or chapters, each dealing with a unit of the Regiment—the Depot, 1st Bn., 2nd Bn., etc.

Unless the circumstances are unusual it will be found that the first method results in a much "tidier" and more readable book.

The author will also have to decide how much background is to be included, or in other words how much he is going to say about the political and higher military events in which the activities of the Regiment are to be framed.

The original "lay-out" is a very important matter and merits a lot of thought. It can be, and in most cases will be, altered as the book proceeds, but the nearer the original approximates to the final arrangement the better.

Assuming that the author decides to adopt the first suggestion and write his book in chronological order, and assuming that the period to be covered is from 1939 to 1946, the following is an example of the form in which he might draw up the "lay-out".

Contents**Maps and illustrations**

Chapters

Appendices

Illustrations

Maps

Foreword—by Colonel of Regiment**Author's Preface****Chapter I**

Background—Events leading up to hostilities.

Map of Europe (or of the World).

Chapter II

The Dunkirk Phase.

The 1st Bn. with the B.E.F.

France and Belgium.

Chapter III

Battle of Britain. Regtl. I.T.C., 1st, 5th, 6th and 9th Bns.

Illustration of bomb damage to Regimental Depot.

Chapter IV

2nd Bn. in Burma, 1942.

(a) Burma.

(b) Country round Pegu.

Chapter V**Chapter VI****Chapter VII**

etc.

Chronologically, on above lines.

Appendices—List of COs.—Honours and Awards—Roll of Honour, etc.**Index**

Having arranged the "lay-out" it will be as well to submit it to the Regimental authorities for approval, and to confirm that all Units and all activities of the Regiment have been included.

The author's close association with the publishers will not come till later, but even at this stage it is advisable to contact the member of the firm with whom one is to deal.

With these preliminaries settled the author can now put his mind to writing the book.

II

WRITING THE BOOK

The writing of history consists of:

- (a) Fact finding.
- (b) Putting the facts into their proper order and perspective in clear, readable language.

The process by which the book gradually takes shape, and finally emerges as the finished article in the hands of the reader, will vary so much according to circumstances that it is impossible to lay down rules—or even offer advice—which can be followed in every case. It is, therefore, proposed to deal with only the most important points which will be found common to all, or most, books of this kind.

(a) Information

History records facts, and without an abundance of relevant facts one cannot put pen to paper.

Some authors will prefer to collect all, or most, of the facts for the whole book before commencing to write. Others—probably the majority—will do it chapter by chapter.

Whichever system is adopted the chief sources of information will be as follows:

- (i) *War Diaries*—Formation and Unit War Diaries provide the backbone of the detailed information, and it is essential for the author to make timely arrangements to secure all the war diaries he is likely to require. This is best done by an application from the Regiment to the War Office—who will probably give permission for the loan of the Record Office copies.

War Diaries vary considerably in quality according to the zeal and competence of the Officers responsible for making the entries and the circumstances in which they were written. Some may be very full and accurate, others almost useless; but on an average they will provide more than 50 per cent of the required facts.

- (ii) *Other Publications*—Articles in Regimental magazines, service journals, the local and national press, etc., often contain much useful information if it can be found and sifted. In most cases some individual serving at the Regimental Depot, or residing in the Regimental area, can supply clues to useful articles of this sort.
- (iii) *Private Diaries, Letters, Accounts, etc.*—It should be made known through the Regimental magazine, or press, that the history is being written and that the author will welcome the loan of diaries, letters, etc. Many of these will be highly cherished possessions of the relatives or friends of men killed in action. Every care must be taken to safeguard them and return them promptly to their owners.
- (iv) *Personal Interviews*.—The author will often find personal interviews with eye-witnesses the best means of obtaining information in matters of detail, such as patrols, ambushes, etc. It must be remembered, however, that impressions gained in the heat of battle, and related some years

later, are not always accurate—but that the relators are not best pleased if any hint of inaccuracy is made public. Considerable tact is required in dealing with verbal information of this sort, especially when the accounts of two or more eye-witnesses differ—as is very often the case.

- (v) *The Author's Personal Knowledge.*—The author will rely on his own knowledge when writing the background to his history, and it is, therefore, important that he should be a man who makes a practice of studying current affairs and who keeps abreast of the times.

In describing events in which he participated he will naturally rely on his own recollections; but should be careful to confine himself to facts and not, as a general rule, criticism. It will often be best not to indicate that he is writing as an eye-witness.

It may be some weeks before the author feels he has collected sufficient information to make a start, and he will certainly be unwise to do so unless he has enough facts on at least one chapter to write uninterrupted by the necessity for frequent additional fact-finding.

(b) *Putting the Facts Together*

Many of those engaged, or about to be engaged, on producing histories will no doubt be writers of ability—some of distinction. The following remarks are not for them, but for those venturing on authorship for the first time. One cannot be dogmatic in this matter, but the author found the following rules very useful, and from conversations he has had with others they would appear to be of fairly general application.

- (i) Do not attempt anything but the plainest English—simple words and short sentences.

If you have any doubt as to the wisdom of this advice read a few pages from Mr. Churchill or John Buchan.

- (ii) Very few people can concentrate on serious writing for periods of more than 2 or 3 hours at a time. Do not go on beyond your own "period", and if you have an "off" day give it up and do something else.
- (iii) Most people, including the author, find it a great help to "plan" each chapter very carefully by writing it in skeleton (showing the subject matter for each paragraph), before attempting to write the final draft.
- (iv) Having finished a chapter read it over and correct the obvious mistakes. After that put it away for a week or two and then read it over again. By approaching it with a fresh mind you will probably be able to make a number of genuine improvements. The final reading should be done by somebody else, as there are often a few obvious mistakes which the writer himself will not detect—however many times he reads it over. This is a peculiar fact but it is a very usual one.
- (v) Practically all publishers insist on MS. being typed. In any case it is much more satisfactory if it is, as more than one copy will be required. There are various ways of doing the actual writing—direct on to a typewriter, by dictation, in rough (pencil or ink) to be typed later, etc. Most people will know which method suits them best: if not they must find out by experience, the sooner the better. The most usual method is to first write the script in rough—to be typed later, either by the author himself or by somebody else.

III

MISCELLANEOUS CONSIDERATIONS

(a) *Maps and Illustrations*

Map production should proceed concurrently with the script. If this is not done, and the maps left until the completion of the script, the book will take much longer to produce.

The author should, therefore, get in touch with some firm specializing in the sale and production of maps, at an early date. In some cases it will be found that suitable maps are only obtainable from the War Office. In a few instances a published map may be suitable in its existing form, but in most cases they will require considerable adaptation—by reduction or enlargement, overprinting of troop dispositions and the addition of legends, etc. Most histories will require a few large-scale coloured sketch maps which will have to be drawn in their entirety. This work cannot be done by an amateur. At a very early stage the author will have to get into touch with a skilled draughtsman who will either produce new maps or adapt existing ones to a form suitable for reproduction in a book. The publisher will be able to suggest the name of a man, but once the introduction has been made it is best for the author to deal with him direct, rather than through the publishers. Frequent personal contact between author and map-maker is essential. It should be a principle that *every* place mentioned in the text should appear on the appropriate map.

Whilst the question of maps is mainly one for the author, that of illustrations is one which should be considered in close association with the Regimental authorities. Illustrations should be included only if they have some real significance. Photographs of distinguished members of the Regiment are always of interest; but groups of officers, or other ranks, having no particular connection with the script, add little to the value of the book. Similarly a picture of a typical village, in say Normandy, is not worth including unless it was the scene of some notable exploit by a Unit of the Regiment.

(b) *Accuracy versus Speed*

It is doubtful if an absolutely accurate history has ever been written. Mr. Churchill is not exactly a beginner as a historian, but Vol. I of his book "The Second World War" contains more than two pages of Errata and Corrigenda.

There are very few authors who, on reading their books after publication, do not feel that they could improve on them if they made another attempt.

Whilst striving for reasonable accuracy, and a well-written and well-arranged book, the author *must at all costs* avoid delaying publication repeatedly in an effort to attain perfection. It is important that a history of recent events should be available to as many of the participants as possible. If it is not published till most of them are dead the book will have lost much of its usefulness. Therefore be reasonably quick, and once you have handed the MS. over to the publishers, try to avoid making last minute alterations.

(c) *The "Balance" and Style of the Book*

It is important that each phase, and each incident, should receive the space and emphasis which it merits.

There will be a tendency for the Regular Officer author to neglect the non-regular units. The urge to write copiously about activities in which he participated

will be very strong, and there will be a natural inclination to give fuller accounts of successes than of failures. These tendencies must be resisted. The author must adopt a detached view, remembering that he is writing for the Regiment as a whole, and is writing history, not an advertisement. He should not shirk describing an incident because it may be unpalatable.

He should avoid a style which results in a mere catalogue of incidents. He must endeavour to blend background and minor incidents together, and as far as possible introduce a personal touch. This is best done by mentioning individuals by name as frequently as possible and by the occasional inclusion of a humorous incident or remark.

(d) *Organization of Work*

It is no doubt possible to produce a novel, a play or a poem with little more equipment than is necessary to write a letter. With a history something more elaborate is required, although it need not be very elaborate.

A simple filing system is almost a necessity. The author kept a cardboard file for each chapter in which he put all information and references connected with that chapter—press cuttings, letters, references to books and articles, records of important conversations, etc. As previously stated it is probable that a number of books, letters, private diaries, notes, etc., will be received on loan. It is most important that a record be kept of these, so that they are returned to their owners as soon as possible.

An account book should be kept in which all expenses (including postage) are entered. Even if these are not recoverable from the Regimental authorities they can be deducted from the author's fee when assessing his "profits" for income-tax purposes.

Assuming that the script is to be typed—as is almost essential—it is for consideration how many copies are required. The following is suggested as a guide:

For Publishers	..	..	..	..	..	1 or 2
For Author	..	..	..	..	..	1
For Regimental authorities (1 may be sufficient, but if there is a committee as many as 3 may be desirable)	..	..	..	..	..	1 to 3
Total	{	Minimum	..	..	..	3 copies
		Maximum	..	..	..	6 "

The S. should be typed with double spacing, as this leaves room for additions and amendments.

It may be thought desirable to take out an insurance policy against loss of MS. (and other documents connected with the book) by fire or theft, when travelling or in the post.

(e) *Proof Reading and Compiling Index*

The procedure after the author has handed over the script to the publishers is usually as follows:

Galley proofs sent to author for checking.—These are in strips about half a yard long. The pages are shown separately, but are not numbered.

No maps or photographs.

Galley proofs returned by author to publishers with corrections, and indication as to where maps and illustrations are to be placed. (NOTE.—It is important that maps open clear of the text in such a manner as to be visible at the same time as the text is being read.)

Proof copy sent to author with numbered pages, for author to compile index. A good index adds greatly to the value of a book, and experience has shown that the author is the best person to compile it. Accuracy is essential and it is a somewhat tiring and irksome job. The form in which it is set out is important and the advice of the publishers should be sought in the case of anybody without previous experience. It is a much more formidable task than it appears—as the author discovered soon after commencing his first attempt at indexing.

Book in its final form sent to author for checking.—This will be exactly as it will appear “in the bookshop” and is the author’s last chance of making a correction. It will be as well to obtain the final approval of the Regimental authorities. It should be noted that at this stage corrections and alterations should only be made for very weighty reasons. Any considerable amendment will cause the publishers great inconvenience and delay publication. The time to make corrections is not now, but in the galley-proof stage.

(f) *Security, Legal Aspect, etc.*

If on completion the author has a suspicion that any parts of the book contain matter which, on grounds of security, should not be published, he should arrange for the matter to be submitted to the War Office for a decision.

It is unlikely that questions of copyright, the law of libel or other legal matters will arise in a book of this kind, but if there is any doubt the publishers should be consulted and legal advice taken if considered necessary.

As a matter of courtesy the author would be well advised to obtain permission to quote from private letters or documents, or from speeches or lectures—although there may be no legal liability to do so.

CONCLUSION

Apart from a reasonably good standard of English, the essentials are—up-to-date military experience, previous connection with the Regiment, sufficient time and patience to seek out and sift a mass of detailed information and, above all, a definite liking for the job.

Finally, it may be said that the task is an almost ideal one for a recently retired officer, and there can be very few who would not feel a sense of satisfaction in producing a history of their old Regiment, or of a Regiment or Formation with which they have been closely associated.

STRINGER LAWRENCE

BRIGADIER H. BULLOCK C.I.E., O.B.E., F.R.HIST.S.

III. CONSEQUENCES OF A PEACE

ON 7th January 1749 Dupleix released his remaining British prisoners on receipt of official verification of the armistice by a ship from France.¹ Lawrence at Fort St. David went steadily ahead with his plans for making the Garrison a striking force and for rendering the Fort a secure base for it. Work on the fortifications had been suspended since Boscawen's arrival, when the artificers and labourers were needed in camp, and the monsoon had impeded construction for two or three months after his return in November; but the Council were able to report to London in February 1749 that they hoped to complete a large part of Delavaux's project by May or June. Most of the guns in the Fort were honeycombed, and were replaced by others removed from two of His Majesty's ships which had been condemned. The troop of cavalry was considered to be "of infinite service": it was a reliable body, very handy for escort duty with consignments of the Company's commerce: its expense would be more than covered by the dismissal of peons, who had been of little value at Pondicherry: stabling had been built for its 110 horses. (Nevertheless the Directors ordered its disbandment as soon as they heard of its existence, and though their orders were at first obeyed only to the extent of reducing it to thirty troopers who were kept in case Dupleix should instigate Chanda Sahib to attack any of the British "out-villages" which could not promptly be protected by a body of infantry, the last remnant had to go in 1750 when the Directors returned to the charge). Lawrence, whose eye never strayed far from the requirements of discipline, had the retailing of spirits prohibited within the Bounds. Many new officers were engaged, suitable persons being found amongst the "volunteers" (as aspirants to a commission were known) who had come out with Boscawen. The lieutenants of companies were raised to captains, and one John Scrimmour was made lieutenant of Lawrence's company for gallantry during the French attack on Cuddalore. A code of military regulations sent out as the latest thing from London was put into force "as near as possible": Lawrence had foreseen and introduced most of the provisions on his own.²

In March a long step forward was taken. The infantry of the Garrison was divided into seven companies, one being composed of grenadiers. As this number was considered by Boscawen and Lawrence to be barely sufficient to hold Fort St. David and Cuddalore, an additional company was formed from the garrison at Vizagapatam and was stationed there. The artillery company was not yet up to strength, and though the gunners' pay was increased to the rates prevailing in the King's service, the added attraction only induced another 26 men to transfer. Some stir was caused by the desertion to Pondicherry on 24th May of Delavaux, who had shortly before received permission to retire on grounds of ill-health. It was believed that he had absconded "owing to his having killed one of His Majesty's subjects by an unhappy accident". He eventually found his way to Madagascar³.

Early in June Lawrence took the field again. Boscawen, with ample leisure and little to occupy it, had conceived the idea of a sort of foray, ethically quite unjustifiable, against Devikottai, a place some thirty-five miles to the southward which was held

¹ *Cal.*, p. 63.

² *Cal.*, pp. 66, 67, 88, 92-99, 105.

³ *Cal.*, pp. 83, 88; FSDC 1750, p. 13.

by a rival of the King of Tanjore. Though the eventual price exacted from the Tanjore ruler for the British part in this affair was a grant of Devikottai to the Company, the Directors in London totally disapproved of the adventure as soon as they heard of it. Indeed, they alleged that Governor Floyer, Lawrence and one other member of the Council (though they all denied the charge) had planned the expedition in secret and had kept the other four members in the dark until the troops were ten miles on their way.¹ The first attempt to take the place was a dismal failure. A junior officer—one of the ensigns who had come out with Lawrence, though now promoted captain—set out for Devikottai at the end of March with 430 Europeans, nearly a thousand sepoys, a few guns, and insufficient supplies. Fortunately the venture though altogether abortive was not costly in actual casualties; and the column returned without having achieved anything. Then Lawrence was sent to pull the fat out of the fire: it would never do for the Country Powers to think that the British troops were not more than their equal.

Orme gives a lengthy account of the two expeditions to Devikottai. Whereas the first had made its way there partly by land and had thereby met with much difficulty, Lawrence used only sea and river transport, in an ingenious and highly successful manner. He determined to take his force in ships and boats to the mouth of one of the arms of the Coleroon River, then to transfer the rest to boats, and land on the bank opposite to that on which the fortress of Devikottai stood. The river was about a mile wide.

With him Lawrence had the whole of the Company's troops at Fort St. David, totalling 800 Europeans including artillery, and 1,500 sepoys. The Europeans with the artillery and baggage were embarked in six ships, three each from the Navy and the Company, and the sepoys accompanied them in large boats of the pattern used in local commerce. At the mouth of the river the troops and stores from the ships were put into boats, taken up the river, and landed opposite the fort. A battery was established which after firing across the Coleroon for three days made a practicable breach, whilst a large raft capable of carrying four hundred men was constructed and a cable for it was secretly passed across to the enemy's bank. At two in the afternoon, on the fourth day, 400 Europeans with three field-guns were sent over on the raft, covered by the fire of all the four siege-guns and six field-pieces. After a crossing lasting about fifteen minutes they landed successfully and established a bridgehead. During the next two hours the raft made several more trips under continuous fire, which killed 30 Europeans and 50 sepoys before the entire force had crossed.

We continue in Clive's own words, taken from the narrative which he furnished to Orme and on which the latter based the account in his *History* (Orme MSS, I, pp. 223-225). "It was agreed [the trenches] should be first stormed. For this service Lieut. Clive offered himself voluntarily. A platoon of 30 Europeans and 700 sepoys were allotted him for this attempt, and as soon as the trenches were carried the grenadiers and the rest of the Europeans were to attack the breach. Lieut. Clive at the head of his party advanced, being followed by the rest of his army, till he came to a nullah which was very deep and muddy. This nullah he passed with much difficulty having lost four or five of his platoon in passing it, for the enemy's trench was not at the distance of more than fifty yards and he was fired upon the whole time. As soon as he had formed his platoon and the sepoys who were to support him and cover his rear had begun to pass the nullah, he marched up briskly close upon one of the flanks of the intrenchments and ordered the front rank to kneel in order to give his fire; but before he could effect this a body of the enemy's cavalry having turned the corner, and the sepoys not doing their duty in covering his rear, all his platoon excepting three or four men in front were in an instant cut to pieces by the horse. Lieut. Clive was just upon the point of falling a sacrifice to one of the horsemen who had his

¹ *Cal.*, pp. 119, 129.

sword uplifted to cut him down (which he avoided by slipping on one side), and seeing himself abandoned by the sepoys and all his platoon cut off, he had nothing for it but flight to the nullah, where he found the rest of the forces drawn up waiting the event of his attack of the trenches. Upon this disaster a platoon of grenadiers were ordered to attack the trenches supported by the whole army, and the men being seconded (?) the trenches were easily carried. The breach was then mounted and no resistance made, the Fort being abandoned. In marching to the breach a body of cavalry attempted to make a charge but were received with so warm a fire by one or two platoons that they were obliged to retire with very considerable loss. As soon as we were in possession of the ramparts we could perceive the enemy's army retreating over the plains, which was very numerous being not less than fifteen or twenty thousand men, but their chief strength being cavalry they did not chuse to shut themselves within the walls of a fortification."

It is evident that Clive's gallantry was not equalled by his tactical ability, which indeed he had had little chance to develop at this early stage of his military career. His latest and best biographer cannot have consulted this narrative, for he writes: "the attack nearly cost him his life when the men behind him fled, but his own intrepid conduct shone out all the more clearly in consequence. The eyes of Lawrence were upon him as he strode fearlessly into the breach under heavy fire, and again as he valiantly rallied his men for another, and this time successful, attack". Though his sepoys were for some reason not formed in close support of the European platoon, it is not correct to say that they fled; and far from having "strode fearlessly into the breach under heavy fire" during the first abortive attack, Clive never got anywhere near the breach but had to take to his heels as soon as he reached the outer trenches. The second and successful assault was not by "his men" but by the whole army under Lawrence, and was virtually unopposed. We may thus take exception to Mr. Davies' judgment that Devikottai was the occasion when Clive won his spurs, and that he was the only man who came well out of the expedition.¹ The main interest of the little campaign lies in the unorthodox approach by water and the unusual and bold method of the Coleroon crossing, which exemplify Lawrence's talent for administrative planning as well as for improvisation; while his final assault in full force is typical of his courage and resource in adversity.

On his return from Devikottai, Lawrence did not stay long at Fort St. David. Boscawen with his fleet sailed on 18th August for Madras to take possession of the settlement from the French in pursuance of the terms of the treaty of peace, and Lawrence also went there as the senior of three Commissaries who were to accept its rendition on behalf of the East India Company. On 21st August the town of Madras and the citadel of Fort St. George were given into their hands "to the universal joy of the late inhabitants who thronged thither as soon as the English flag was hoisted". The place was found to be in bad condition, walls and bastions were entirely undermined, and all stores had been carried off except 104 unserviceable guns.² The Commissaries as a body were chiefly occupied in restoring

1. *Clive of Plassey*, by Mervyn Davies, London, 1939, pp. 67-68. Clive had also taken part in the first expedition to Devikottai. The second expedition seems to have been at the end of June and during July 1749. In a letter to Bombay dated 29th June the Council at Fort St. David write "Major Lawrence is gone to the southward", but the letter is nevertheless signed by Lawrence along with other members of the Council, as are similar letters of 30th June and 6th July. From 8th to 27th July his signature is absent from the Council's letters, but it reappears on a letter of 5th August. Perhaps these letters were sometimes signed by one or more members some days before they were despatched. It looks as if he left Fort St. David before the end of June and was absent for most of the month of July (*Letters from Fort St. David 1749*, Madras, Government Press, 1935, pp. 37-51 *passim*). The date 12th June given for the capture of Devikottai at *Cal.*, p. 81 is evidently an error, and should perhaps be 12th July. Orme (1861 edition, vol. i, pp. 107-118) avoids giving a date for the second expedition, and Lawrence in his *Narrative* as printed by Cambridge omits all mention of both expeditions.

2. *Cal.*, pp. 79, 80; *letters from Fort St. David 1749*, p. 55.

amenities and trade. Lawrence's principal concern was to build up his military strength as much as possible before Boscawen's departure for Europe, and he seems to have been given a very free hand in negotiating the voluntary transfer of officers and men from the King's army to the Company's service. The British Government had given permission for all the officers and men of the artillery company and the twelve Independent companies with Boscawen to join the Company's service. In passing on this sanction to India, the Directors added that as many officers should be accepted as there were vacancies for, and as many privates as possible should be enlisted. Men not needed on the Coast of Coromandel should be sent to Bengal or Bombay. The infantry garrison at Bombay was to be ten companies and at Bengal five companies, with a company of artillery each.¹

Attempts to enlist soldiers from the Independent companies met with little success at first, and only 176 men responded to the first two offers. When Boscawen's squadron was about to sail, and the inhabitants of Madras were clamorous for protection, Lawrence and his fellow-Commissary Foss Westcott took the responsibility for promising to give commissions as Company's captains to four lieutenants of the Independents, and to take one lieutenant and one ensign into each company as well. By this old (and usually ill-advised) device of offering to grant commissions or promotion to gentlemen who could produce recruits in bulk, officers who would benefit by an increase of rank or pay on transfer to the East India Company's service were able to attract sufficient men to transfer with them, and four new companies were procured, making 500 men in all obtained from the Independent companies.² No mariners would enlist, for most of them had large sums to draw when they should reach their home ports. Topasses at tenpence a day were enrolled "to relieve European privates of duty in the violent heat of the day and in consideration of the smallness of the garrison".

When in the middle of October Boscawen and the naval squadron left for England the outlook was far from hopeful. Indeed, it was hazardous. The British had only 797 European troops on the Coromandel coast, of whom 499 had just transferred from the King's army, whereas it was believed that there were 1,800 French soldiers in Pondicherry. The Council despondently wrote to London that the enmity and intrigues of Dupleix had made the peace worse than the war. Chanda Sahib, with the aid of 900 Europeans and some artillery lent him by the French, had just defeated and killed Nawab Anwaruddin at Ambur, claimed the nawabship himself, and granted to the French so much of the territory around Fort St. David and Madras that Dupleix was in a position to stop trade-goods and foodstuffs from entering either settlement and had already begun to show signs of employing this new stranglehold.³ At the end of the first week in December Lawrence was at last able to leave Madras and return to his normal duty at Fort St. David as commander of the military garrisons. What with the depressing monsoon weather, the turbulent state of the interior, the difficulty of re-establishing the trade and fortifications of Madras, and the removal of the protection afforded by the navy, the year 1749 closed in a marked atmosphere of gloom.

The new year seemed to bring little better prospects, and in February the Council thought that the state of the province was rather worse than when Boscawen left. Chanda Sahib and Muzaffar Jang were milling and marauding all around, and generally stirring up trouble which was expected to increase. The Council had been led into "a most troublesome correspondence" with the French over alleged breaches of the treaty. And friction between the Council and the Directors was brewing: we shall hear more of it. Orders from London were generally obeyed locally, although

¹ *Oal.*, p. 71.

² *Oal.*, pp. 88-89.

³ *Oal.*, p. 81, *Letters from Fort St. David 1749*, p. 78.

many such injunctions were indeed obsolete or incapable of obedience when they at last reached the men on the spot after many months. Non-compliance was hence often justifiable or even inevitable, as when the Council felt it imperative to authorise Lawrence to re-introduce a disciplinary code and its attendant penalties : they recorded that "a compliance with the orders would have endangered the Company's settlement with the lives and fortune of all their servants".¹

Lawrence was now despatched upon an embassy to Nasir Jang. Did he, as he set out, recall to his mind another embassy which he had attended as a boy, forty years before, to the Emperor Joseph? He took with him an elaborate and lavish selection of presents, including twenty-one silver fountain pens, with one of which the grateful recipient in due course wrote a letter translated and recorded thus:—

"In the Name of God gracious and mercifull. By the Mercy of the Lord of the Earth, I am in hopes to have the North under my Possession as that of the South is under the Command of my Pen as far as a Certain Part of the Sea. I Rec'd the Pen you sent me as a good sign that by the Works of the said Pen the remaining corner namely the East and West may fall under my Command. By the help of God he that obeys me will attain his end, he that disobeys me will fall a Prey to the Bloody and revengefull Swords of my Brave Soldiers".²

The mission occupied Lawrence from 13th March to 30th April 1750, and we are fortunate in having an account of it from his own hand.³

"Muzaffar Jang and Chanda Sahib marched out of Pondicherry with their army and two thousand Europeans commanded by Mr. D'Auteuil", writes Lawrence, "with a large train of artillery and a numerous body of sepoys. They took post within a few miles of Nasir Jang, at whose earnest and repeated request I marched with six hundred men, accompanied with Mr. Westcott, one of the Council, with a commission to treat with Nasir Jang, in which we were assisted by Captain Dalton. We joined him at Villanure and were very graciously received, suitable to the dignity of an Eastern prince, at the head of three hundred thousand men, of which he declared me Generalissimo. He proposed to me to attack the enemy immediately : I told him, in the Eastern stile, that he must be sure of victory wherever he fought, yet the attack might be attended with some difficulty and cost him the lives of many brave men, as the enemy were strongly posted and had with them a large train of artillery. (The French were entrenched and had twenty pieces of cannon. Nasir Jang had 800 ; but his principal officer of artillery was an Irishman, for the natives in general think every European an engineer. I happened to find fault with this gentleman's disposition of his artillery, which was in a hollow where his cannons were hid. He gravely replied, "What, did I think him mad or foolish enough to expose his excellency's cannon by placing it on a rising ground?"). But that, if he pleased to march between them and Pondicherry, he might by cutting off their communications oblige them to fight at a greater disadvantage.

However just my proposal might be, his answer was as follows :

"What, shall the great Nasir Jang, the son of Nizam-ul-Mulk, even for an

¹ *Cal.*, pp. 91-99.

² FSDC 1750, pp. 74, 95.

³ FSDC 1750, pp. 90, 106. See *An Account of the War in India between the English and French on the Coast of Coromandel, from the year 1750 to the year 1760, together with a Relation of the late Remarkable Events on the Malabar Coast...*, by Richard Owen Cambridge, London, 1761, pp. 5-7. Pages 1-76 of this work consist of Lawrence's own "Narrative of the War on the Coast of Coromandel". Two or three other versions of the Narrative are among the Orme MSS. at the India (now Commonwealth Relations) Office and in the King's Library at the British Museum. Lawrence's version of the embassy is supported by FSDC 1750, *passim*.

advantage seem to retreat before so despicable an enemy? No, he would march and attack them in front". I told him he might do as he pleased: I was ready to support him.

The two armies were so near that the next day we cannonaded, and were drawn out to engage. In this situation, a messenger came to me from Mr. D'Auteuil to acquaint me, "that although we were engaged on different causes, yet it was not in his design nor inclination that any European blood should be spilt; but as he did not know our post, should any of his shot come our way and hurt the English, he could not be blamed". I sent him the answer, "that I had the honour of carrying the English colours on my flag gun, which if he pleased to look out for he might know from thence where the English were posted"; and I assured him I should also be very loth to spill English blood, but if any shot came that way, he might be assured I would return them.

To know, I suppose, whether I was in earnest, a shot was fired from their battery over our heads. I ordered three guns to answer it, and saw them well pointed. Mr. D'Auteuil seeing us resolved not to look tamely on, and probably fearing the success of an action, thought it more prudent to retreat in the night. Lest his heavy artillery should retard him, he, for the greater expedition, left eleven pieces behind, and what was worse part of his artillerymen with them, the better to conceal his design, for he gave out he was only going to alarm our camp in the night, and would be back in the morning.

Nasir Jang having immediate notice of his retreat soon routed Muzaffar Jang's and Chanda Sahib's forces, fell in with the unfortunate French gunners left behind as a sacrifice, and cut most of them to pieces. We saved as many as we could, taking them by force out of the hands of the Moors, got their wounds dressed by our surgeons, and took all the care of them that humanity required of us. In return, Mr. Dupleix wrote a long protest against me, for making French subjects prisoner in time of peace; but the poor fellows, more sensible of the obligations they were under to us, very gratefully acknowledged our tender usage, and confessed it was entirely owing to us that they were saved.

The same night a large detachment of Marathas going from Nasir Jang's camp, commanded by Morar Rao *, were sent in pursuit of Mr. D'Auteuil. They came up with him the next day. Mr. D'Auteuil formed his men into a square. Morar Rao attacked it with only fifteen men, imagining his whole party in his rear; but seeing his danger he with that handful, when surrounded, boldly pushed for it, and breaking through the opposite side cleared his way with six men, having lost nine in the attack.

On the retreat of the French and their army being dispersed, Muzaffar Jang submitted to and implored the mercy of his uncle, who received him into his camp and detained him as a state prisoner; but Chanda Sahib, whose sole dependence was on Mr. Dupleix, continued obstinate and retreated with the French to Pondicherry. Muzaffar Jang's submission, as will shortly appear, was only politic, and that he might be nearer at hand to concert a scheme which in a few months was put into execution at the expense of his uncle's life. The consequence of the victory was the retaking of Arcot, which again acknowledged its lawful master".

More alarms and excursions followed, but none led to a direct clash between the French and the English, who had indeed come to a gentleman's agreement that their troops might operate as allies of the "Country Princes" in Tom Tiddler's Ground and risk an incidental brush with each other there, but that they should at all costs avoid an actual conflict within the Bounds of their own settlements, which would

* Lawrence adds a footnote to the effect that Morar Rao was a free-lance commander.

amount to so obvious a breach of the peace treaty that it must attract attention and invite reproof from their masters in Europe. Thus the Council wrote to the officer commanding in camp, in February: "You are hereby order'd to join Nasir Jang and assist him against whoever may attack him, but you are not to join in the attack of any place where the colours of any nation at peace with us are hoisted".¹ Lawrence has left an account of these moves and counter-moves, but they are hardly of interest to us since he took no further active part in them.

By this time the sepoys had been virtually eliminated from the Garrison. An interesting experiment was the enlistment of Coffrees, African slaves who made their appearance from time to time on the Coast and who hitherto had usually been sent on to the Company's settlements in Indonesia. The proposal was adopted "as we have had many instances of their bravery and the present situation of affairs renders it incumbent on us to keep as large a military force as we can... their pay to be the same as is allow'd to our topasses". A regular company of Coffrees was established from 1st February, and they were sent out to camp, "to be train'd up in the military on the same footing with the French Coffrees".²

A situation now arose in which Lawrence had to busy himself with other than military matters. On 6th July 1750 an Indiaman arrived in the roadstead of Fort St. David carrying a packet addressed to Thomas Saunders as President and Governor of the settlement and to ten other specified gentlemen as members of the Council. Of the eleven addressees Lawrence was the only one present at Fort St. David at the time. "Judging it highly proper that the contents should be immediately known and the invoice and other papers taken out in order to the ships being unloaded, which otherwise will not be done for some days as the other members except the President are at Madras and he at Vizagapatam", Lawrence took it upon himself to break the seals and open the packet, to discover that it contained orders from the Directors dismissing Governor Floyer and two other members of the Council from their service, and reconstituting that body with Saunders as President and Governor and with certain new members. Floyer announced that he would hand over charge to Lawrence on the following day, since the Major was the senior member of the reconstituted Council who was present; and on 7th July the minutes record that "the late President delivers over to Major Lawrence the keys of the Garrison &c. and likewise those of the cash chest" and the charge of the mint.³

Thus Stringer Lawrence became temporary Governor of Fort St. David, and he held the post until the arrival of Saunders from Vizagapatam on 19th September following. During that time his chief occupation was to defend himself against epistolary attacks by the members of the Council who had been at Madras when the sealed packet arrived, for his having opened it. This paper warfare of an ancient controversy is scarcely of interest today, and indeed Lawrence's action in the matter under dispute seems to have been entirely sensible. Nor need we go deep into the rights and wrongs of Floyer's dismissal. The Directors held him guilty of wanton extravagance (always in their eyes the most heinous offence that one of their servants could commit), of gambling, and of general laxity in administration and in the conduct of their interests. Worse still, "the ancient rule which had guided the English on the Coast for a hundred years—that all business of importance should be settled in Council—was broken through; and an expedition [that to Devikottai] was sent out to invade the territory of a neighbouring prince and capture one of his towns, without the matter being broached in Council until the men were on the march".⁴

At the beginning of September there was much discontent in the Madras garrison, who alleged that the rate of pay promised to them by Lawrence had been unfairly

¹ FSDC 1750, p. 87.

² FSDC 1750, pp. 60, 107, 239.

³ FSDC 1750, p. 165.

⁴ *Opal*, introduction, p. vii

diminished by juggling over the rate of exchange. A company of old soldiers under Scrimmour was rushed there from Fort St. David, and the explanations tendered were readily accepted, for ten days later the Council at Madras were able to report that their garrison was "now very orderly since the late regulations in their pay".¹

With Floyer's case disposed of, the Directors turned their attention to his right-hand man. Though as we have seen they had in April 1748 approved of the arrangements made in respect of Lawrence's pay by the Council on his arrival at Fort St. David, they now repudiated that approval. On thinking over the matter, they wrote on 22nd March 1750, they found that the alteration made by the Council in Lawrence's favour was so considerable that they withdrew the approval which they had previously given. Lawrence was only to have what was agreed on in London before he left for India—£250 a year with the usual allowances for diet, servants, and a palankin as Third of Council, and the clothing of his company. No other pay or allowances of any kind were admissible.²

Whether they were in frantic search of economy to offset Floyer's extravagance, or whether they judged that a good part of the odium attaching to the Devikottai affair lay at Lawrence's door, their ostensible grounds for revoking their approval are clearly unsatisfactory. Having agreed with the terms of service settled in April 1748 it was not open to them two years later to back out of them. They should have honoured their own bond. No employee can be expected to tolerate the retroactive reduction of his salary from two years back.

Lawrence took the only possible course. On 30th September he wrote to Governor Saunders and the Council:—

"Our hon'ble. Masters having thought proper to lessen my Appointments convinces me that they disapprove of my Conduct, and therefore I beg leave to lay down their Service, with the sincerest wishes that Success may attend all their affairs".³

He was given a passage to England in the Company's ship *Fort St. George*, with Floyer as one of his companions, and they sailed at sunrise on 26th October. Once again his voyage was a long one, even for those days, and the vessel did not reach England until 8th May 1751.

So ended the first of Stringer Lawrence's four spells of duty in the East Indies. He was absent from England for about fifty months. He spent nineteen months on the voyages out and home, three as a prisoner of war, and two and a half as Governor of Fort St. David. Thus for half of his time he had, through force of circumstance, little chance to display the military talent which posterity has acclaimed in him. In the residual two years, about one half of the whole period of his absence from England, he had been the first Englishman to lead a body of English troops against the French in India and the first to score a success against them. He had staunchly supported a bad commander, and had stood and fought his ground when others had fled. He had almost begun to convince a big business concern that the security of their commerce was worth substantial expenditure; and he had at all times shown a talent for professional advice in council. Above all, his flair for sound basic military administration is manifest. He had laid deeper foundations. One was for the Indian Army which was to grow and grow, until it came at last to its astonishing peak two centuries later near the end of British rule, when two million men were serving in its ranks. Moreover, he had set the feet of his disciple Clive on the path that led to a greater glory than his own.

¹ FSDC 1750, pp. 192, 198.

² *Cal.*, p. 109.

³ FSDC 1750, p. 218.

BREAST-PLATES

'ZUMBOORAK'

UNTIL the advent of small-bore breech-loading rifles it had been the custom in all armies for the infantryman to carry his heavy ammunition in a large leather pouch, slung by a wide strap over his left shoulder. His bayonet was attached to a similar strap which passed over his right shoulder.

Now a peculiarity of this period found only in British armies was the practice of adjusting the bayonet strap by means of a brass plate fixed in front, at the point where both straps crossed, called a 'Breast-plate'.

This custom originated about 1780, a time when our oldest Indian regiments were gathering their early laurels.

The first breast-plates were oval or square in shape and only the regimental number was permitted to be engraved upon them—one may say the earliest form of badge.

Officers had more elaborate plates, which in many regiments were made of silver, on their sword slings.

In the early Nineteenth Century these breast-plates became larger, oblong in shape and carried a device upon them and thus remained, handsome and interesting ornaments, until about 1853 when they disappeared for ever as waist-belts replaced the old bayonet slings. (Note:—Curiously enough the idea of this old article has survived in the metal plates still to be seen on the official cloth sashes of Chaprassis, etc.)

An article on sepoy uniforms printed in the *Journal of the U.S.I. of India* in 1936 stated that, although numerous old officers' badges are still preserved, no single sample of sepoy's breast-plate was then known to exist.

Well, one has recently come to light and we illustrate it.

The plate is of polished brass with two hooks and studs at the back for fixing to the bayonet sling. The badge, also of brass, is separate and pinned on to the plate. The numerals 47 are detachable. It is a good sample of Indian casting, measures 4 x 3 inches and weighs four chattacks (8 ozs).

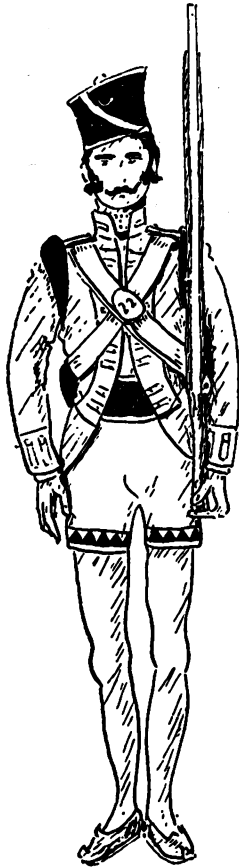
Probably it represents the official 'Issue' to all Bengal Infantry, differing only in the central numerals appropriate to each regiment.

The 47th Bengal Infantry, we do not have to remind readers, exists today (a century since the plate was worn) as the 3rd Battalion, The Rajput Regiment.

Sepoys of Madras infantry regiments at the same period seem to have had a star as their device with numeral in centre and often a scroll bearing a battle-honour below the star and sometimes another above.

Although we know of no actual specimen of Madras Army breast-plate we have reproduced one of several sketches made in 1843.

Perhaps some readers can inform us of the existence of more of these interesting old sepoy's breast-plates?

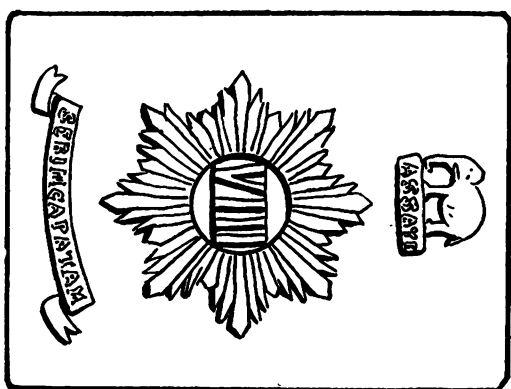
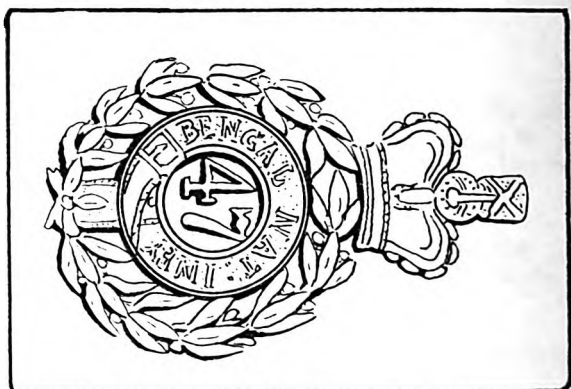


1803

A sepoy of the 22nd Bengal Infantry
 (Now 1st Bn, The Jat Regt)

Sketch by
J. R. Hardan

Sketched by
E. J. Vanden



Brass plate worn in 1843
by Sepoys of the 8th MADRAS INFY
- a famous old regiment.

TREASURE UNTOLD

'VIATOR'

MOST of us at one time or another of our youth, be it misspent or well-advised, have aspired to collect some form of what we believe to be uncommon and pleasing. We count the attendant pains and tribulations in the acquisition of one treasure nothing when compared to the feeling of intense pride, when it stands triumphant upon our humble mantelpiece for all the world and his wife to see and, of course, admire.

Life in the Khyber Pass in the naughty year of 1931 gave me a varied choice of research in treasures—Greek statues recumbent in the adjacent countryside, knives as brutal as they were unusual in appearance, or old Russian china! The last named eventually claimed my wholehearted desires and aspirations. I must have gazed at many dozens of the blue or scarlet cups, saucers, bowls and tea-pots, which in those days were by no means uncommon in the Peshawar valley. Occasionally I had the privilege to set eyes on a few green ones, which were invariably beyond the depth of my purse. I admired them and then tried to forget them.

My manifold duties as Officer-in-Charge of the Khyber Khassadars (Tribal Levies) were varied, interesting and often deeply amusing. The Afridis of the Khyber Pass lack neither wit nor the appreciation thereof, which made life in their immediate vicinity decidedly refreshing. My two personal orderlies noticed the few pieces of china that filled rather inadequately the handsome mantelshelf in the Political Agent's quarters at Landi Kotal where I had my abode. They commented on the fact that such treasure was often to be found in the baggage of the Powindahs (nomadic Afghan tribesmen whose goings and comings in the spring and autumn succeed in cluttering the Khyber Pass to a degree that has to be seen to be believed). I asked them to let me know as soon as they espied any Russian china for sale in the serai, and awaited results.

On a particularly cold January evening, one of them came to announce that an old Powindah woman was ready to display a valuable tea-pot of Russian origin, warning me at the same time that I must not give her more than one-third of what she might ask for the treasure, even if I thought it worth a good deal more! Eager for the chase, I seized the heavy stick I always carried against the attentions of the ferocious caravan dogs, and departed with my orderly to the caravanserai, which is but a few yards distant from the Fort. Weaving my way amidst a hubbub and conglomeration of men, women and children intermingled with clamorous camelry, I found myself at last confronted by a female of incalculable age and amazing ugliness. She showed me the sole fang which she possessed in an attempt to smile, and then with a gesture of silence and mystery, led me away into a corner of the serai, endeavouring without success to shoot off at the same time a group of Powindah maidens who obviously having nothing to do, wished to follow all details of what might be an interesting transaction between one of their own kind and the easily-duped Ferangi (foreigner). Pushing forward a bag of pine needle nuts for me to sit on, she then approached a camel that had not ceased vociferating since my arrival. "Sit oh sit", she shrieked at the enraged quadruped who had obviously not the least intention of complying. Seizing a stick at her feet she returned to the attack and yelling "Sit bastard sit" she administered a thunder-like stroke on the top of the camel's unlovely head and awaited results. The beast with an enraged grunt collapsed like a camera stand, knowing doubtless who was master of the situation.

The hag with incredible strength and ferocity dislodged a sack from the top of the camel's pack saddle and threw it at my feet. Diving with alacrity into the interior of the sack, she hurled at me pieces of rope, dried onions, a pair of Powindah shoes, a reaping hook and et cetera of no specific category, laying carefully aside a bundle that seemed to consist almost entirely of newspapers. Having at last unravelled many numbers of some erudite Kabuli newspaper she held up for my admiration a much besmirched blue tea-pot. One look at this treasure convinced me that not only was it not a piece of old Russian china, but that further it was a Japanese imitation of the Russian imitation! "Sixty rupees, but only for you", she whispered. I thought a moment, realising that its real price was one-sixtieth of the quotation, and with all decorum said "Oh Aunt (a term of respect for age), I cannot rob you of it; only take it to Peshawar, and you will obtain one hundred rupees for it." Peals of girlish laughter arose from the attendant maidens. "Get gone, get gone", screamed the hag, and then burst into fiendish cackles. "O ho, o ho", she muttered, as I retreated in the distance. I saw my orderly hiding a desire to join in the general merriment and disorder!

Pension Claims

It is observed that disabled ex-members of the Armed Forces as well as dependants of deceased members of the Armed Forces of the following categories, namely, commissioned officers, members of the Nursing Services and the late W.A.C.(I) and soldiers of the A.F. (I), in respect of whom a claim to pension or its continuation is under consideration with the Pension Sanctioning Authority, do not keep the said authority informed of their change of address. This results in delay in the initial payment of disability or family pensions to such personnel and, subsequently, in the adjustment of the initial awards. All such persons are therefore advised to keep the Controller of Military Accounts (Pensions) Allahabad, (Naval Headquarters in the case of I. N. Officers and Air Headquarters, New Delhi, in the case of IAF Officers) informed of every change of address as and when it occurs.

SULTAN GHARI

B. HUMPHRY

IN the small town of Sultan Ghari, now ruined and deserted, is the oldest tomb in India. It is some thirteen miles from Delhi and about three miles west of the Qutb Minar. Though the site lies on a motor road, it is little visited.

Sultan Shams-ud-din Iltutmish, often called Altamsh, third and greatest of the dynasty of Slave Kings, reigned from 1211 to 1236 A.D. He had many children and four of them succeeded him on the throne amongst them being Sultana Razziya, the only woman—other than Victoria—to rule over Delhi. Iltutmish's eldest son, Nasir-ud-din, by cognomen Abdul Fateh Mahmud, who predeceased his father in 1229, was an energetic and wise prince who was Governor first of Oudh and then of Bengal.

It is this Crown Prince, Mahmud, who was buried at Sultan Ghari, in a mausoleum of exceptional architectural interest which was erected by his father in the year 1231. The date is fixed by an Arabic inscription, in Kufic characters, out in marble above the entrance portico. Only two other Kufic inscriptions are known, one at the Qutb nearby and the other at Ajmer, for the script became obsolete in India after the thirteenth century.

The buildings at Sultan Ghari fall into three groups, (i) the 'Turkish' period, comprising Mahmud's tomb only, (ii) the Tughlak period, deriving from Firoz Shah (1351-1388), and (iii) the Mughal period, the late seventeenth and eighteenth centuries. The basic structure, Mahmud's tomb, is a fort-like quadrangle elevated on a ten-foot plinth, with circular domed turrets at the corners. The entrance gateway is in the middle of the east side and *mihrab* forms the centre of a prayer-chamber opposite it: both are largely constructed of marble, carved elaborately. Except the carved inscriptions, nearly every characteristic of the structure is Hindu, so much so that early archaeologists concluded that this was a Hindu building adapted to Muslim purposes. It is now recognised—and indeed it is proved conclusively by the Kufic legend—that it is nevertheless of Islamic origin, though clearly the work of Hindu craftsmen who re-used many components from earlier Hindu edifices.

The tomb of the Prince lies with some other unidentifiable ones in a vault which fills the centre of the courtyard and is 15 feet deep. This we did not explore on our first visit which was at the height of the monsoon rains and we lacked an electric torch and stout stick as a defence against snakes, nor did we forget that the crypt might harbour one of Delhi's huge hornets' nests, since an ominous buzzing was heard. A later inspection disclosed that it was full of bats.

The superstructure abounds in special features:—the six-sided pyramidal 'dome' above the prayer-chamber; the marble pavingstone which had been the receptacle of a linga, the spoil of some Hindu shrine; and the use in a single building of every one of the principal materials employed locally through some eight hundred years—marble, sandstone, brick, grey quartzite (still quarried close by), concrete, and plaster. Most intriguing perhaps is the strong suggestion of Greek influence in the six white marble columns with capitals which front the prayer-chamber. Admittedly they are not truly Doric, nor are their capitals of the authentic Corinthian mould; but the likeness is inescapable, and the man who made them must surely have tried to reproduce from imperfect memory, or from the halting instructions of another person, a Greek original. The colour effect of the exterior of the en-

closure, a variety of shades of quartzite weathered by age and climate from its original grey to brown and buff presents real beauty; and the whole composition though almost primitive has a dignity of its own.

The second, Tughlak, group of buildings owes its existence to the surpassing energy of Firoz Shah, who records in his autobiography that he repaired a tomb which can only have been Mahmud's. He also reconstructed and enlarged the tombs, only a few yards distant, of two of Mahmud's brothers, both of whom succeeded to the throne of the Slave Kings, Sultans Muiz-ud-din (1239-1241) and Rukn-ud-din (1235-1236). One of these—it is not known which is which—still stands, a good example of an octagonal Tughlak monument: the other has tumbled into a heap of rubble and quartzite pillars. Here Firoz Shah built a mosque, now in partial ruin.

The most recent group of buildings is secular, a sizeable village, originally perhaps larger than its ruins suggest. Under these domestic dwellings, of say 1700, something a good deal earlier may lie. The whole provide evidence of the layout of a Mughal village; and from certain interiors which still retain their plaster, by adding in one's mind's eye the roofs, whitewash and wooden components which have disappeared, one can form a picture of housing in those days.

Sultan Ghari, a name first recorded a mere century ago, means 'Cave King', and is presumed to refer to the subterranean burial cell. A well illustrated article on the site by Mr. S.A.A. Naqvi appeared in *Ancient India* in 1947, and the interest of a visit is greatly enhanced by its possession. Sir John Marshall's masterly essay on the Muslim architecture of India in the *Cambridge History* (vol. III) places the mausoleum in its cultural perspective. The only older buildings in the Delhi area are the Quwwat-ul-Islam mosque at the Qutb (built 1191-1229) and the lower stages of the Qutb Minar itself (which were completed about 1230); and presumably the mysterious amphitheatre at Suraj Kund.

THE CAVALRY BELL

LIEUT.-COLONEL C. C. R. MURPHY

This story is true, although of course
It didn't happen to Wilson's Horse.
It tells of a major fierce and tall
From a cavalry regiment of Bengal,
And the wonderful luck that once befell
A man who salvaged a temple bell.

TOWARDS the end of the Boxer Rebellion, a famous regiment of Bengal cavalry that we shall call Wilson's Horse lay encamped outside the city of Tientsin. They were all in the highest of spirits, having just received orders to return to India immediately. During their few months in China they had had a very interesting time and had seen much that was new and strange to them; but the rebellion itself had proved a tame and wearisome affair from a soldier's point of view, and all ranks were delighted at the prospect of their impending departure for Meerut, a station justly acclaimed as one of the best in India. Yet the officers of Wilson's Horse had good cause to remember for the rest of their natural lives that brief sojourn in the Celestial Empire.

Near their lines in Tientsin was a temple, possessing a bell with a wonderfully rich tone. It was too big and heavy to be swung, but when struck gave out a note of rare melody that, like *The Lost Chord*, 'trembled away into silence as if it were loth to cease'. One night however the temple caught fire and was burnt to the ground; and when morning broke, all that remained was the bell and two great stone demons guarding what had once been the entrance.

One of the squadron commanders went over and surveyed the smouldering ruins. He had a good look at the bell and came to the conclusion that in spite of its size it would make an excellent trophy for the regiment to take back to India. Even if it weighed half a ton, no doubt the regimental comprador would be able to find a means of shifting it. On returning to the lines he broached the idea to his brother officers, but it did not catch on. The colonel sneered at it; the captains jeered at it; the subalterns were profanely humorous about it. Some declared that the bell would be very difficult to move and would merely be a white elephant. Others protested that it was not playing the game to loot a place of worship.

The dogged major however argued that there could be no harm in taking it. There were bells in China of every kind and description, and bell-metal was everywhere cheap and plentiful. Soldiers and sailors of all the other countries represented in the International Force had been looting right and left, and were returning home laden with lump silver and bar gold from Tientsin, with embroidered silks and dark blue porcelain from the Temple of Heaven, and treasures of all kinds. Wilson's Horse on the other hand got nothing worth having, except a few ugly-looking gods bought at prices certainly beyond their face value. He could see no reason why they should not take away with them as a souvenir of their happy time in China a bell that was now homeless, and whose silver voice that they knew so well would be heard no longer. No one paid much heed to his argument, but the major was a masterful man and went ahead with his plans for the removal of the bell.

A few days later, the troopship arrived and on the following morning the comprador, whose religious scruples had been set at rest by a suitable *cumshaw*, appeared outside the temple with a gang of coolies. Having lifted the great bell from its bed of ashes by means of an elaborate arrangement of bamboos, they swayed and staggered down the pathway with their load, the two demons scowling diabolically as it passed into the hands of 'foreign devils' and vanished for ever from their lawful charge. It was then covered over with a tent by way of camouflage, and amid much chattering was carried down to the wharf and hoisted aboard. That evening the transport sailed, and in due course after a slow and uneventful voyage steamed up the Hooghly and arrived in Calcutta.

Disembarkation began at once and proceeded rapidly; but when men, horses and baggage had been put ashore there still remained the problem of the bell. The difficulties of handling it which had been experienced in Tientsin, had now to be tackled all over again, and by the time it had been hoisted out of the hold and lowered on to a special truck, the fatigue party had called it all the names they could lay their tongues to.

On arrival at Meerut, the regiment was met by a large crowd of people who had assembled to welcome it. It was many years since the fluttering pennons of Wilson's Horse had been seen in the cantonment; and one of the sowars who had joined there as a recruit was now returning as risaldar-major.

The next morning, the bell was hauled up from the station to the lines to an accompaniment of imprecations; it was then dumped in the mess compound where it lay forgotten for several weeks. When the regiment had had time to settle down in its new surroundings, the major was politely asked what he proposed to do with his white elephant. He therefore suggested that it should be suspended from a steel framework, to be erected in one corner of the mess compound, and that it should be used as a dinner-gong. No one raised any objection, and the major, whom the subalterns had now nicknamed 'the Bell-wether', was allowed to proceed with his scheme. The work having been completed, one of the servants went out twice nightly and struck the bell a series of sharp blows with the base of a sambur horn. Thus after months of silence, its deep-throated, silver voice was heard once more, no longer calling the worshippers to the temple, but in the words of Byron as

That all-softening, overpowering knell
The tocsin of the soul—the dinner bell.

The innovation however was given short shrift. It was never popular, and the bell, in spite of its associations, was summarily ousted in favour of the trumpet whose functions it had usurped.

The question soon arose as to what should be done with the bell when the regiment left the station. It was too cumbersome to be dragged about with them from place to place, and so the officers agreed that it should be offered as a present to the incoming regiment.

From time to time, discussions had taken place as to what metal the bell was made of. Some said copper and tin, or perhaps copper and zinc. Others declared that owing to its enormous weight there was probably lead in it, but this idea was rejected on the grounds that if this were so, it would not possess such a melodious tone. At last it was decided that the matter be referred to an expert, and in this connexion the mess secretary suggested that a sample of the metal be cut off and sent to the assay-master at the Calcutta Mint, who was an old school friend of his. This idea having been approved, the regimental *mistri* was summoned to the compound and as soon as the sample of metal had been obtained, it was despatched to the Mint with a covering letter.

At last the answer came. An emergency mess meeting was hurriedly called, at which the secretary announced the startling news that the bell was made of *silver and gold in the proportion of two parts to one*!

It was promptly decided that the bell should be sold, and that the negotiations for the sale of it be entrusted to the regimental agents—one of the leading banks in India. In the meantime, the utmost secrecy was to be observed.

Not long afterwards, the colonel received a letter to say that the bell had been sold for £20,000. He suggested that the money be divided amongst the officers who had served with the regiment in China. The Bell-wether however demurred and claimed the bell as his own property. He recalled how he had been abused for bringing it back from China, and that having received all the kicks, he should now receive the ha'pence. While the dispute was going on, one of the officers received a hint from his brother in Simla, who had been let into the secret, warning him that if the Government got to hear about the affair officially, they would probably step in and confiscate the whole amount. The money was eventually shared out on the lines suggested by the colonel.

The beneficiaries enjoyed their good fortune to the full. The secret was well kept at least for a time; but their opponents on the polo-ground sometimes wondered how Wilson's Horse had suddenly managed to acquire such a superb string of ponies.

THE STORY OF RADAR

SQUADRON LEADER T. T. JOSEPH, I.A.F.*

DURING my recent tour of the United Kingdom, I had occasion to study the latest Radar methods employed in that country. The Radar equipment used by the Indian Air Force, at present, and projected for the future compares very favourably with those available in the West. The story of Radar has been a closely guarded secret during the last war, but after the end of the war, a considerable volume of literature has appeared in the world press on its achievements in World War II.

It is now a matter of common knowledge what important part Radar has played in the last war and how it has been a major factor in changing the course of events. Sir Stafford Cripps, the war-time President of the Radio Board, said:—"It has played a greater part in the war than the atom bomb and holds far more potentialities of service to the human race than the splitting of the atom!"

The principle of Radar is the property of radio waves to get reflected from material objects. In this respect it bears some resemblance to sound waves. I am sure that you all would have come across the phenomenon of reflection of sound known as echo, some time in your life. If you stand at some distance from a wall or a hill-side and produce some sharp, short sound like the clapping of hands, you can always hear the 'echo' which is nothing but your sound hitting the wall or hill and getting reflected back to you. The actual time interval between the sound and its echo will depend on your distance from the reflecting surface. If this time can be measured accurately, the distance of the wall or hill from you can be calculated with some degree of accuracy from the known velocity of sound. By listening carefully, the direction from which the echo comes and hence the direction of the reflecting surface or target can also be estimated.

However, considering that the velocity of sound in air is approximately 1,100 feet per second, a modern plane, travelling in excess of 400 miles per hour or 450 feet per second, will be out of range before any effective action could be taken against it, if a sound system of warning were relied upon. We therefore depend on radio waves which travel much faster, for this purpose.

The fact that radio waves possessed properties of light was demonstrated as long ago as 1886 by the famous experiments of Heinrich Hertz, the discoverer of radio waves. Hertz showed, among other things, that radio waves were reflected from solid objects. In 1922, Marconi strongly urged the use of short waves for radio detection. Successful detection devices were developed independently in America, England, France and Germany during the thirties. British radar was developed at a faster pace than that of other countries under the immediate threat to Britain's security during the period 1930-40. During the winter of 1934-35, the Air Ministry set up a committee for the scientific survey of air defence. Among the suggestions it received was a carefully worked out plan for the detection of aircraft by wireless waves, submitted by a Scottish scientist, now Sir Robert Watson-Watt, who was then the head of the National Physical Laboratory Radio Department. The first experimental system was set up in the spring of 1935 on a small island off the east coast of England.

* In a broadcast from A. I. R., Delhi.

The basic principle of Radar is wireless and as in communications we have a transmitter and receiver; but unlike communications, the transmitter and receiver are located at the same place and more often than not, have a common aerial. The transmitter sends out wireless energy in intense bursts of very short duration of the order of millionths of a second. These are called 'Pulses'. After each pulse, the transmitter shuts down and remains quiet for a comparatively long time before sending out the next pulse. During the interval between the pulses, the receiver functions and any portion of the transmitted energy reflected by material objects in the path of the transmitted beam is received by the receiver. The reflected energy is called an 'echo'. The nearest objects give echoes very soon after the transmitted pulse, while those farther away give later returns. The time interval between the transmission of the pulse and the reception of its echo gives a measure of the distance of the reflecting object, which may be an aeroplane, ship, building or mountain, from the place of location of the radar set. This is possible because the time interval is the time taken by the pulse, which travels with the speed of light, to get to the target and back. Light travels about 186,000 miles every second or 328 yards in a millionth of a second and so these intervals of time for objects at distances of the order of a hundred miles or so are extremely short. One of the technical triumphs of modern radar is the exact measurement of these extremely short time intervals, by an instrument known as the cathode ray tube.

The direction in which a target lies is determined by the directional property of the radar aerial. The pulses of energy are sent out by the transmitting aerial, in a narrow beam, like a search-light. The aerial has a similar receiving property also and as the aerial is rotated, we get back the echo as a 'pip', when it is pointed towards a target. The pip will be strongest when the aerial is facing directly at the target. The bearing of the aerial can be read off on a degree scale and used to point the anti-aircraft gun or set the course of a bomber or direct a fighter to intercept an enemy plane or for any other similar purpose for which the radar equipment is designed.

A more spectacular indication of the direction and range of a target is obtained with what is called the P.P.I. or Plan Position Indicator. In this case, the radar echoes are caused to draw a plan of the area being searched by the radar aerial on the face of a cathode ray tube. No matter how many targets surround the radar set, each is indicated by a blob of light, the intensity of which varies with the amount of energy received back by reflection. The range and direction of any particular echo from the centre of the tube face, which represents the location of the radar set, can be read off on scales provided for the purpose.

I shall now dwell upon the achievements of radar in World War II. The mass assaults on England by the Luftwaffe began early in September, 1940 and rapidly increased in intensity. Despite a critical shortage of fighter planes and pilots, the RAF was able to spot each incoming raider in time to throw fighters against it. The necessity for constant airborne patrols of fighters was thus eliminated by the use of radar and "the few to whom so many owed so much", to quote Churchill's phrase, were thrown into battle economically and with the maximum striking power.

By November of that year, the German tactics had changed and day raids were replaced by night attacks. This gave radar a more important part in defence, as the visual spotting of aircraft in the night was difficult on account of poor visibility. This led to the rapid development of a compact type of radar to be fitted in night fighters so that they could, on their own, search the sky for raiders. This was known as A.I. or Aircraft Interception radar.

The A.I. radar, on account of its small size had limited range and therefore it was worked in close conjunction with a powerful ground radar and the new technique evolved was known as G.C.I. or Ground Controlled Interception. In the G.C.I.

technique, a controller on the ground watching the enemy raiders on the P.P.I. tube of a special radar, chooses a specific plane as a target, gives detailed instructions to the fighter under his control and manoeuvres the fighter to a position of about two miles behind the target and below it on the same course. The fighter is then asked to flash his weapon and the A.I. radar in the fighter which is operated by a special operator who has no other duties, takes over. The pilot was only obeying instructions right up to the moment when he was close to the bomber to see it silhouetted against the night sky. From this time on, the pilot completed the attack.

The question might naturally arise now as to how a ground or airborne radar set could distinguish between friendly and hostile aircraft. This was achieved by fitting a tiny radar set known as I.F.F. ("for Identification Friend or Foe") to all friendly aircraft. This set is capable of giving an identifying signal to a radar station when interrogated by it. This equipment is now fitted to all naval vessels also.

Similar to A.I. radar to which I have just referred, there was another airborne radar known as A.S.V. (Air to Surface Vessel) for the detection of surfaced submarines or other vessels on the surface of the sea. In the last war the A.S.V. radar was fitted to long range aeroplanes and the sea lanes where U-boats were known to be working were constantly swept by the radar beam. As soon as the echo of a surface vessel was observed on the cathode ray tube, and was not showing I.F.F. signal, the aircraft headed straight for it and attacked it before it had time to run away or submerge.

Another navigational aid is a homing radar beacon known as Eureka which gives a coded reply to an aircraft interrogator known as Rebecca. The reply is displayed on a cathode ray tube in the aircraft and gives the pilot or navigator the identity of the beacon, its distance from him and its direction.

In bad weather, when visibility is almost nil, and visual indications on airfields such as electric flares cannot penetrate the fog or dust storm, a radar device known as BABS comes in handy. With this aid, an experienced pilot can make a landing approach completely blindly, but at the same time seeing the runway through his 'radar eye'.

One last radar device which deserves mention is the Radar altimeter. Just as the distance of an aircraft from the ground can be determined by radar, so the vertical distance of an aircraft from the ground can be found by this equipment fitted in the aircraft. The advantage of this over other types of altimeters is that it gives the absolute height above the ground and not height above sea level.

After Independence, the IAF has been forging ahead with modernisation of its defence, and Radar is occupying no mean place in its programme. We had a small team of Radar trained officers and airmen left in the IAF after the releases, and with them as a nucleus we have organised training of more, both in England and in India, and it is a matter of pride to say that today the installation, operation and maintenance of all our Radar equipment is being carried out entirely by Indians.

INDIAN SOLDIERS AND THE VICTORIA CROSS

EARNEST J. MARTIN

THE Victoria Cross was instituted by Queen Victoria in 1856, but it was not until 1911 that eligibility for it was extended to Indian soldiers of the Indian Army.¹ Previous to this time, the highest award open to Indian officers and other ranks was the Indian Order of Merit, which however was granted for meritorious service, and not necessarily for bravery.

It is nevertheless interesting to note that Sir James Outram—despite regulations—recommended a number of native-born Indian soldiers for their gallant conduct during the Persian Campaign of 1857, and although Crosses were not granted to them, their names are worthy of record. They were Subadar-Major Mahomed Shereef and Private Bheer Bhut, both of the 20th Bombay Native Infantry,² who were recommended for their conduct in the assault of Fort Bushire in December 1856; and Havildar (afterwards Jemadar) Runjeet Singh and Trooper Lall Khan of the 3rd Bombay Light Cavalry.³

The first issue of the "London Gazette" which contained the name of a native-born soldier of the Indian Army was that of 7th December 1914, in which we read the story of the heroism of Naik (afterwards Subadar) Darwan Singh Negi of the 39th Garhwal Rifles at Festubert. Although wounded in the head and arm, he led the way round traverse after traverse of a trench, possession of which had been temporarily lost, while he and his platoon were instrumental in recapturing, together with many prisoners. This gallant action took place during the night of 23rd-24th November 1914, but although as stated Naik Darwan Singh Negi was the first Indian soldier to have the award gazetted, and in fact the first to receive the Cross, which he did soon afterwards from the hands of the King-Emperor personally, he was not the first actually to win the coveted award.

This distinction fell to Sepoy (later Subadar) Khudadad Khan, a Pathan serving in the 129th Duke of Connaught's Baluchis, whose brave act anticipated that of Naik Darwan Singh Negi by nearly a month, although it was not gazetted until two days later. Sepoy Khudadad was a member of a machine-gun crew, one of two in action at Hollebeke, in Belgium, on 31st October 1914, during the first Battle of Ypres. One gun was blown up and the officer in charge of the detachment seriously wounded. The second gun remained in action against overwhelming odds until all the crew save Khudadad were killed. He was seriously wounded, and being left for dead by the enemy, managed to crawl away. The remainder of the crew of this gun received posthumous awards, the Havildar the Indian Order of Merit, and the four other sepoys the Indian Distinguished Service Medal.

A similar act to that of Naik Darwan Singh Negi was that of his comrade-in-arms Rifleman Gobar Singh Negi, also of the 39th Garhwal Rifles. He also led the way round successive traverses of a trench during an attack at Neuve Chapelle

1. Throughout this article the word "Indian" is used in its geographical, not its political connotation, and the expression "Indian Army" refers to the whole Army when under British command. Readers will be well aware which Regiments now form part of the Pakistani Forces.
2. Now 2nd Bn. (Prince of Wales's Own) 6th Rajputana Rifles.
3. Now 17th Queen Victoria's Own Poona Horse.

in April 1915, but unhappily did not live to receive the Cross. Sharing the melancholy distinction of a posthumous award is Risaldar Badlu Singh, of the 14th Murray's Jat Lancers, who was also the last Indian V.C. to be gazetted during World War I. On 23rd September 1918 his squadron was attacking a strong enemy position on the bank of the Jordan, when it was held up by a machine-gun nest strongly supported by rifle fire. Badlu Singh collected half-a-dozen men, and with this small party attacked and took the position. Unfortunately he was mortally wounded while capturing one of the guns single-handed, but he survived long enough to accept the surrender of all the guns and infantry.

The catalogue of brave deeds which gained the Victoria Cross makes inspiring reading—Sepoy Chatta Singh of the 9th Bhopal Infantry, who looked after his commanding officer and another officer, both of whom had been severely wounded, under heavy fire for the whole of one day in Mesopotamia, building a parapet round them, and bringing them food, afterwards carrying them to safety; Lance-Naik Lala of the 41st Dogras who also saved the lives of two officers in Mesopotamia in May 1916; Lance-Dafadar (afterwards Jemadar) Gobind Singh of the 28th Light Cavalry, who repeatedly carried messages to Headquarters across shell-swept ground; Jemadar (afterwards Subadar) Mir Dast of 55th Coke's Rifles (attached 57th Wilde's Rifles) who at Ypres in 1915 saved the lives of no fewer than eight British and Indian officers. This gallant and much-decorated soldier had already gained the Indian Order of Merit ten years previously, and to this and the Cross he soon added the Order of British India and the Russian Order of St. George. Two riflemen of 3rd Queen Alexandras's Own Gurkhas received the Cross—Kulbir Thapa who saved the lives of a British soldier and two Gurkhas in 1915, and Karanbahadur Rana for devotion to duty in keeping a machine-gun in action despite heavy odds.

From this list of gallant actions it is hard to pick one to surpass others, but for bravery and determination it would be hard to find a better example than Naik (afterwards Jemadar) Shahamad Khan of 89th Punjabis. To quote the Gazette conferring the decoration: "He was in charge of a machine-gun section in an exposed position covering a gap within 150 yards of the enemy's trench. He beat off three counter-attacks, and worked his gun single-handed after all his men except two belt-fillers had become casualties. For three hours he held the gap under very heavy fire while it was being made secure. When his gun was finally knocked out he and the two belt-fillers held the ground with their rifles until ordered to withdraw. With three men sent to assist him he then brought back his gun, ammunition and one severely wounded man who was unable to walk. Finally, he himself returned, and removed all remaining arms and equipment except two shovels".

Another outstanding example of gallantry and devotion to duty was that of Sepoy Ishar Singh of 28th Punjabis, who won one of the three Crosses granted during the Waziristan Campaign of 1919-21. He was No. 1 of a Lewis Gun team, and was severely wounded early in the action which took place on 10th April 1921. As he lay wounded beside his gun, the British officer, the Indian officer and all the havildars of his company became casualties, and in an attack his gun was captured. He called two other men, recovered the gun and with blood still pouring from his wound got it into action again. His Jemadar arrived with a relief for the gun and ordered Ishar Singh to the rear to get his wounds dressed. Instead of having his own injuries attended to however, he indicated to the Medical Officer the position of other wounded men, and himself carried water to many of them, making many journeys under heavy fire to a nearby river. On one occasion he took the rifle from a wounded man and returned the enemy fire, on another he stood in front of the Medical Officer who was dressing a wounded man and shielded him with his body. After three hours, he submitted to having his own wounds attended to, being in fact by then too weak from loss of blood to object. The Gazette account of his bravery and fortitude concludes: "His gallantry and devotion to duty were beyond praise. His conduct inspired all who saw him."

During the war of 1939-45, no fewer than twenty-eight Indian officers and men of the Indian Army, including ten members of Gurkha Regiments, gained the Victoria Cross. Unhappily nearly half this number did not live to receive the award. The first to be gazetted, and the first Indian officer holding the King's Commission to receive the Cross, was 2nd Lieutenant Premindra Singh Bhagat of the Royal Bombay Sappers and Miners. He was engaged in clearing mine-fields during the pursuit of the Italians after the capture of Gallabat, Abyssinia, in January 1941. For no less than four days he was working on this task—twice he was blown up in his carrier, many of his men were killed or wounded, he was ambushed and one of his ear-drums was shattered by an explosion—and although almost exhausted, he would not give up until clearance was completed. Also in East Africa, at Keren in Eritrea, Subadar Richhpal Ram of 6th Rajputana Rifles led a successful bayonet charge. Later he repelled six separate counter-attacks, and his ammunition exhausted, withdrew the survivors of his company. Within the week, he led another attack, and although mortally wounded, encouraged his men until he died. Richhpal Ram was the first of the twelve Indians whose awards of the Victoria Cross were made posthumously. The story of any one of these heroes is an epic—the gallant leadership of Company Havildar Major Chhelue Ram of 6th Rajputana Rifles, of Subadar Netrabahadur Thapa of 5th Royal Gurkha Rifles or of Jemadar Parkash Singh of 13th Frontier Force Rifles; the selflessness and courage in the attack of Subadar Ram Sarup Singh of 1st Punjab Regiment or Jemadar Abdul Hafiz of 9th Jat Regiment; the dash and gallantry of Naik Yeshwant Ghadge of 5th Mahratta Light Infantry or of Rifleman Sherbahadur Thapa of 9th Gurkha Rifles; the heroism of Rifleman Thaman Gurung of 5th Royal Gurkha Rifles or of Lance-Naik Sher Shah of 16th Punjab Regiment.

Two stories alone must suffice—those of Lieutenant Karamjeet Singh Judge of 15th Punjab Regiment and Acting-Naik Fazal Din of 10th Baluch Regiment. Karamjeet Singh Judge was a platoon-commander in a company attacking a cotton-mill near Myingyan in Burma, on 18th March 1945. The infantry was repeatedly held up by heavy machine-gun and rifle fire from bunkers which had been overlooked by the tanks. On each occasion, Lieutenant Judge went forward under fire to recall the tanks. He personally led the infantry in charges against bunkers, and was always the first to arrive. No fewer than ten bunkers were eliminated by him, and at last, while attacking yet another, he was mortally wounded. Fazal Din was the last Indian to win the Cross during the war, and he also gained it during the Burma campaign. On 2nd March 1945, alone he attacked a Japanese bunker, and silenced it with grenades, and then led his section against two others. While a little later he was going to the help of a Bren gunner, he was run through the chest with a sword by a Japanese officer. In spite of his terrible wound, he tore the sword from its owner's grasp, and killed him with his own weapon. He then killed another Jap with the same sword, and continued to lead and encourage his section. Eventually he fell dead in his platoon headquarters after making his report. The "London Gazette" does not err on the side of exaggeration in referring to Fazal Din as a singularly brave and gallant N.C.O.

A Short Story

PIPA AND TIMI

MAJOR SHRINIWAS TIWARI

MULES Pipa and Timi had their bagful of salted grains mixed with Bhusa. Timi was a new-comer and so not very well acquainted with Army life and its ways. She was running her sixth week in the midst of other mules who were already toughened and tamed by the sharp spur of Army discipline. Pipa was one of them. An old timer as he was, he had several times passed through the grim realities of Frontier Operations since he joined the Army.

Timi used to feel homesick at times. She was sick again. Even the delicious Bhusa could not change her mood. Pipa was by her side and did not very much like this after-dinner dumbness of Timi. He gave her a light kick with one of his strong hind legs and rubbed his Bhusa-soiled nostrils on her neck. Timi could not take the joke. With a sour voice she said, "Eh ! Behave properly."

Pipa was in a playful mood. "I say", he retorted, " 'behave properly' is a civil term. In the Army we say something more fitting to our status."

This made Timi smile. She said, "Look Old Boy I....."

"Ah that's better", interrupted Pipa; "you are now getting Army type. Keep it going. Never forget to say 'Old Boy' to the 'Boys'."

"Look Old Boy", Timi continued, "I am feeling very homesick today. Besides, a talk I had sometime ago has suddenly added sadness to it."

Pipa got inquisitive. He asked, "What's that which has put you off colour?"

"The other day", replied Timi with a sigh, "I was talking to one of the lads when out for a morning stroll. He told me that we don't get a pension at the end of our meritorious service in the Army, as these two-legged animals do, but we are laid to eternal rest by forcing some hard lead into our brains. If that is the reward for our service, I might as well ask for it now and die rather than dying slowly in the fear of it."

Pipa had a hearty laugh. "You are too farsighted", he said. "In the Army we never think about what is to happen tomorrow. In fact, thinking is a hindrance to progress in the Army. So forget it. Eat, drink and be merry.....that is the motto of the Army."

Timi was embarrassed to hear this. She asked, "Do you mean to say that there is no thinking in the Army?"

"Not much of it anyway", replied Pipa in a rather philosophical tone. "Had there been a grain of thinking in the Army, these two-footed animals would have stopped fighting among themselves long long ago. Army thrives on deceiving and killing. No religion professes these two as virtues. But in the Good Conduct Code of the Army, these are the two topmost virtues. One who can't deceive and can't kill is considered, according to this Code, a worthless fellow devoid of intelligence and judgment. Have you", continued he, "ever heard a very common word, used everywhere in the Army? It is called

Camouflage. This is a pet expression in the Army and it means nothing but Deception, Fraud and Cunning."

Timi, though confused, was very impressed by his talk. "Where did you learn all this?", said she; "this certainly requires a bit of thinking."

Pipa answered proudly, "Oh no! it has got nothing to do with thinking. It is the product of my sheer experience gained during these many long years by being kicked and kicking these ugly looking creatures."

"Do you see", asked he by pointing his nostrils towards A.T. Havildar, "that two-footed animal standing under the shed with some Khaki strips of cloth stitched on his right sleeve? I bet if he can dare now to come near me. He hates my very looks."

"Why—why so?", asked Timi.

Pipa replied proudly, "This wretched scamp used to detail me almost every day to carry loads more than the approved scale. His excuse was that I was fat. For a few days I kept quiet. I thought he would change his mind soon. One day another of his kind came to our lines. Perhaps he was his superior. This dolt, on seeing him clicked both his feet together and stood with hands straight down on his sides. Seeing him in this unnatural position, I could not help neighing at him with full breath. This diverted the attention of the new-comer towards me. He asked pointing at me why I was so fat; it appeared that I got very little exercise and too much of rations, he added. I did not hear what the standstill creature told him. He went away with a long face and the same evening I found my rations cut to half. This made me furious. I said to myself, all right lad you wait till tomorrow!

"Next day", continued Pipa, "some good wind brought him near me. He began condemning me and my masseur as usual. I waited till he stood behind me. In a split second he found himself flung up in the air and then down on the ground with a beautifully cracked forehead. He was bleeding profusely and writhing in agony. He was immediately taken away from there. It took him three weeks to come back here with a fine semi-circular mark of my hoof on his forehead. Since then he always keeps himself out of my range."

Timi enjoyed his narrative but did not like his behaviour towards the Havildar. She said, "You are very cruel, Pipa. You should not have done that. To me he seems a decent type. He is always good to me. Very often he comes to me, pats me, twiddles my ears and talks to me."

Pipa gave a jerk with his head and said, "You wait till another Column comes. You will then see him in his true colours."

"What's this Column?", inquired Timi.

"It is rather difficult to explain", said Pipa. "It is better seen than described. However, have you ever seen a Hunt?"

"No. But heard a lot about it", said Timi. "One of my distant cousins used to tell me all about it."

Pipa said, "Ah that's better. It is now simpler to explain."

"A Column", continued Pipa, "is somewhat like a Hunt. Therein you can see all the madness and mockery of human life. But unlike a Hunt it is a wild

pursuit with no aim or object in view. At least I don't see any. These deformed animals with all sorts of pouches and pockets round their body run like rabbits uphill and down dale, panting and sweating and swearing. Sanity returns to them only after sunset when they all gather together and lie prostrate on the ground as if dead. The dawn comes and in its wake comes....."

"But how are we all concerned with it?", interrupted Timi who was getting impatient.

Pipa did not like the interruption and stamped his right foot on the ground. "Don't be too impatient Timi. I am coming to that." "In this mad show", continued Pipa, "we are made to run after them, with our backs fully packed and with all sorts of clattering loads of heavy weight. At times I got so annoyed that I kicked my load and my leader and made him run after me for a change. I can honestly say that if one can survive a Column, one can survive anything in this world."

Timi was tongue-tied for a moment. At last she said in a low voice, "Pipa tell me how to avoid a Column."

"There is only one way out", said Pipa laughing. "Just before the start of a Column, you stop eating and report sick. It's only a matter of four or five days at the most."

"Thank you Pipa", said Timi in tired voice. "That's a bright idea. I may do that. But let us for the present say Good Night."

"Good Night Timi."

REVIEWS**HITLER AND HIS ADMIRALS**

ANTHONY MARTIENSSEN

With Illustrations, Secker & Warburg, 15/-.

This book is perhaps unique in that it is an attempt at history based on state documents within three years of the events described. Such an attempt has been possible because all the important facts about Nazi Germany are almost complete and it has been possible to arrive at a comprehensive picture of the Nazi War Machine from the innumerable political and military papers that were unearthed during and after the final stages of the Second World War.

The main sources of information on which the book is based are : the minutes of Hitler's conferences with the Commander-in-Chief of the Navy ; the war diaries of the Naval Staff, operational orders covering every major activity—military and political—in which the Navy had been concerned; and the personal files of Raeder who had been Commander-in-Chief from 1928 to 1943. Anthony Martienssen was one of the staff at the Admiralty engaged on the translation and collation of the data from captured documents and was responsible for the series of articles entitled 'Fuehrer Conferences' that were released to the press from time to time during 1947. Thus he has first-hand knowledge of the subject and his sound deductions and able method of presentation make the book both valuable and readable.

Though primarily a book on Germany's strategic conduct of Naval Warfare, it also covers some of the wider aspects of grand strategy, of German diplomacy and perfidy, of the development, triumph and the fall of a potent evil power. It is a drama of personalities, of the men who dominated the inner war councils of Nazi Germany, who, in their lust for power, led the country by stages to utter defeat and degradation.

Hitler was, of course, the overwhelming personality that dominated the scene from the beginning to the end and his boast "that there will probably never again be a man with more authority than I have", though supremely arrogant, was, nevertheless, too true. It was his absolute dictation on all matters of policy and strategy that raised the Wehrmacht to the pinnacle of Military power and was responsible for the almost miraculous successes of the German Army during the early phases of the war. It was this same arrogance of power and the absolute way he used it, in total disregard of all Military advice, that finally lost Germany the war.

Grand Admiral Erich Raeder, the Commander-in-Chief of the German Navy, was peculiarly suited to his high position. He showed a phenomenal grasp of Naval strategy, and in foreign affairs his judgment was sound, sure and matter-of-fact. In spite of a careful study of the records of the First World War with a view to avoiding the mistakes of their predecessors, the German High Command had failed to learn the outstanding lesson of that war—the decisive importance of sea power, even to a Continental nation. And Hitler, though he sometimes yielded to Raeder's arguments, never really understood the sea. He once told Raeder, "On land I am a hero, but at sea I am a coward".

It was Raeder alone who understood that sea power was the pre-requisite to victory. With dogged perseverance, this exceptional strategist continually got at his

Fuehrer with plans based on the soundest principles of war. He conceived and executed, despite Hitler's misgivings, the 'Fall Weseruebung' for the conquest of Norway—a naval operation in waters where the German Navy lacked control of the sea but which was successful against a superior British Fleet because of tactical surprise, speed and Air support.

One of the outstanding examples of the supreme ignorance of the German Generals on naval matters is operation 'Sea Lion'—the grandiose plan for the invasion of England with a view to eliminating Great Britain as a base from which war against Germany could be fought. The Army wanted landings on a wide front and just would not understand that it would be completely suicidal, in view of British naval supremacy, to attempt the transport of troops on any but the narrowest front. The 'broad' versus 'narrow' front controversy brought planning almost to a standstill and caused delays which resulted in the final abandonment of the plan.

Hitler made, perhaps, the biggest military blunder of all time when he ordered 'Barbarossa'—the invasion and overthrow of Soviet Russia in a rapid campaign. It was, perhaps, the only occasion when all his Commanders-in-Chief made a concerted stand against him and Raeder felt so strongly on the matter that he risked dismissal and continued to protest even after the order had been issued. But drunk with power, Hitler persisted in a course of action which was to spell the utter ruin of all his plans and the eventual disaster of total defeat.

Raeder emphasised the decisive strategic significance of keeping a firm hold on North-West Africa but Hitler ignored his prophetic warning that America had plans for landing in North-West Africa. The Fuehrer was convinced that Norway was the "zone of destiny" in the war and "demanded unconditional obedience to all his commands and wishes concerning the defence of this area". This was a fateful and wrong appreciation as subsequent events were to illustrate.

Obsessed with the elimination of Russia, Hitler remained peculiarly blind to the importance of the Mediterranean. Raeder realised that Suez and Basra were the western pillars of the British position in the East and if these collapsed under the weight of concerted Axis pressure, the consequences for the British Empire would be disastrous. He evolved the 'Great Plan' for the eventual conquest of Egypt and Persia both of which depended on the capture of Malta. The two operations 'Hercules'—the conquest of Malta—and 'Aida'—direct offensive against Egypt—were to follow each other. But the 'Great Plan' failed. "Rommel spoke to Hitler of the stupidity of such old-fashioned ideas as guarding his supply lines when Egypt lay before him for looting. He was prepared to strike now; why waste time capturing Malta?". Unilaterally and without reference to any one else, Hitler postponed the conquest of Malta until after the conquest of Egypt.

In one of the most brilliant operations of the war, the British Navy got a convoy through. Beleaguered Malta made a prodigious recovery and barely two weeks after the delivery of supplies, 38,000 tons of Axis shipping had been sunk on the supply routes from Italy to Africa. The recovery of Malta and the gallant stand of the 8th Army at El Alamein made nonsense of Rommel's vain boasting and fully justified the fears of Raeder and reduced the 'Great Plan' to nothing.

One can but speculate what a difference it would have made had Hitler accepted Raeder's advice to obtain complete control of the Mediterranean Sea by the capture of Malta and Gibraltar before attempting invasion of Egypt. Had Hitler concentrated his efforts in the Mediterranean and the Middle East instead of making his supreme blunder in attacking Russia, what would have been the result? The capture of Egypt would have deprived the British Fleet of all Eastern Mediterranean bases and thus eliminated British sea power. Is it too much to imagine his advance through the Middle East to the Persian Gulf and thence to India? Could the Royal Navy

retain control of the Red Sea and thence of the coastal routes to the Persian Gulf and India? Would Japan and Germany have joined hands across South-East Asia?

Whatever may be the answers to these questions, one lesson emerges clearly, and that is the supreme ignorance of naval strategy on the part of the Army-dominated German High Command. Hitler himself had an occasional glimmering of the importance and the meaning of sea power but his Generals never started to understand it. The result was that they persisted in their African campaign without ensuring the safety of their sea communications and consequently, although they came within sight of victory, the battle was lost in the end. The naval evidence on this point is overwhelming.

Peace-time study must inevitably include an analysis of the past; especially past failures. It is earnestly recommended that officers of all Services should study this highly interesting book with deep attention. All causes have certain effects. In this case the effect was defeat. The cause of the failure was disregard of certain fundamental principles of war.

N.K.

INFLUENCE OF SEA POWER IN WORLD WAR TWO

CAPTAIN W.D. PULESTON, U.S.N. (RETD.)

Yale University Press \$ 5

A detailed examination of the influence of sea power in the last war and particularly in its relation to the development of new weapons such as guided missiles and the atom bomb is particularly opportune at present, because there is much confusion of thought and vexatious controversies on the question of air versus sea power. It is unfortunate that every new invention collects round itself enthusiasts who hastily decry the older and tried weapons as obsolete or obsolescent. In the resultant confusion of thought, some of the deeper and bigger issues are likely to be forgotten. For example, the question of whether the Navy or the Air Force should be responsible for the strategic delivery of the atom bomb has raised a controversy in which even the need of sea power as part of Grand Strategy has been questioned.

Captain Mahan's research into the military history of the last century has established beyond doubt the profound influence that sea power had on the outcome of the European wars of the century. It is only right that Captain Puleston as the student and biographer of Mahan should add his researches of contemporary times to the work of one of the greatest naval historians of all time. Even though it cannot be said that the work under review is of the same standard of literary and historical genius, so characteristic of all Mahan's works, it is, nevertheless, of great narrative interest as regards the tactical events of World War II with particular emphasis on the sea. It gives the student a basis for analytical examination of the events described and to judge the various strategic principles that the war at sea involved.

Not until "the Oceans cease to be the highways of the world, will sea power lose its influence"; this is the conclusion reached by Captain Puleston in his very readable and thought-provoking book.

N.K.

ITALY IN THE SECOND WORLD WAR

MARSHAL PIETRO BADOGLIO

Oxford University Press, 12/6

The Italian people never wanted to be involved in the Second World War. It was the ambition of Mussolini not to be outplayed by Hitler that brought the country to war against the Allied Nations. The destinies of Italy during the Fascist regime in 1939 were not decided on a conscientious examination of its real interests, but depended, more or less, on an agreement between the two Dictators. In this book (originally in Italian, translated by Muriel Currey) Marshal Badoglio, one of the greatest soldiers of Italy, gives a brief account of the catastrophic position of his country under the Fascist regime, and the efforts he made to restore to his country a democratic form of government and to retrieve the past.

Mussolini had an overwhelming pride, says Marshal Badoglio, and believed himself to be immeasurably superior to the rest of mankind. He had a supreme contempt for the "political blindness" of Hitler. In his opinion, "only one German has shown any real political ability—Bismarck". Besides "Hitler was simply a gramophone with seven records, and when he had played them all he began again at the beginning". To avoid being ignored by Hitler, of whom he was jealous and afraid, Mussolini sought closer relations between the two countries. This led to the alliance known as the formation of the Rome-Berlin Axis in 1939. This was not the outcome of common political interests or of an instinctive sympathy between the two nations; it was planned and imposed by the two Dictators in the pursuit of their own glory and ambition.

When the German war machine swung into action crushing all resistance in May 1940, Mussolini believed that England would fall, and that was his fundamental mistake. "He was seized by a frenzy of desire not to be absent from the victor's banquet". He decided to declare war on England. His explanation of the reasons which led to this decision was that it was impossible for Italy to avoid war, she could not fight on the side of the Allies and all that she could do was to fight on the side of Germany. "I assure you", said Mussolini, "the war will be over in September (1940) and that I need a few thousand dead so as to be able to attend the peace conference as a belligerent". That indicates the characteristic callousness of Fascism!

And thus, on June 10, 1940, when the country was not at all prepared militarily to participate in a great global war and the people had no desire to get involved in one, Mussolini announced from the balcony of the Palazzo Venezia in Rome that Italy was at war. "Herded like sheep between the officials and the riff-raff of the Fascist Party, the crowd had orders to applaud every word of the speech".

Mussolini then assumed command of the Armed Forces, and the title Marshal of the Empire was conferred on him. Marshal Badoglio was then Chief of the Italian General Staff. In October, Mussolini ordered the attack on Greece. Badoglio and the then Chief of the Army Staff drew up their plan which was rejected for another plan put forth by General Visconti-Prasca, another of the Italian Generals. This plan failed. Badoglio was accused by Mussolini for this failure. Hard words followed; and Badoglio was relieved of his appointment and a successor appointed in December 1940.

The war went on. Disaster followed disaster—an overwhelming defeat at El Alamein, a pitiable catastrophe in the plains of Russia, heavy Allied air raids on Turin, Milan and Genoa. The people woke up from the anaesthetic of Fascist domination to the realities of the helplessness and the miseries of the country at war. While national morale deteriorated, antipathy to the Fascist regime increased. The

people thought (and even said aloud): "It does not matter if we lose the war, because it will mean the end of Fascism".

The feeling against the Fascists rose high. Even the leaders of the Fascist Grand Council turned against Mussolini and demanded his resignation. In July 1943, the King, who still controlled affairs (although he was not as effective as he would have liked to be), forced Mussolini to resign from the head of the Government. The Dictator was arrested and kept in confinement.

The King then asked Marshal Badoglio to become the Head of the Government and to form a Ministry.

The rest of the book is the story of the new regime's attempts to seek an armistice, to fight Germany on the side of the Allied Nations and to render all aid to the Allies in the war on the Italian mainland.

The new regime, under Badoglio, did not have an easy time. The regeneration of the country after the havoc done by the Fascist control was fraught with difficulties; and according to Badoglio, the Allies themselves were very unhelpful to the new Italy in her attempts to align herself against Germany. The Allied Control Commission in Italy comes under constant fire. "Italy was urged to take a more active part in the war against the Germans. We tried in every way to fulfil this.... We did not wish the Allies to free our country without our help.....but instead of helping us, the Allies did all in their power to lower morale, to discourage enthusiasm, and to cramp our efforts".

The narrative is in the first person, and Badoglio presents facts as he knew them. He had been in the service of his country as a soldier in a very high appointment until Italy entered the war, and afterwards as the Head of the Government on the fall of Mussolini. The book is the record of the views and actions of a patriotic son of Italy lamenting the country's misfortunes, and striving to attain for her the peace and prosperity which were denied to her by an ambitious Dictator and his selfish henchmen.

Muriel Currey, who has translated the book into English, has done a creditable job. She writes a crisp and direct style. The personality of Badoglio is not lost in the process of translation, as the style has a simplicity and freshness normally met only in original works.

A.M.M.

TEAM SPIRIT

MAJOR A.D. BOLLAND, M.B.E.

With Photographs & Sketches. Gale and Polden, 12/6

Logistics have always been a very important aspect of warfare, and more so in modern times, when the fighting machine itself is so complicated in character. In 'Team Spirit', Major Bolland tells of the administration of the 53rd (Welsh) Division during the invasion of Europe.

On V.E. Day, Lt.-Gen. Sir Neil Ritchie, Commander of XII Corps, wrote to the Commander of the 53rd Division and described the Division as a "team in which every element has so fully played its part". This inspired the author in the choice of the title for his book.

The story of the Division's advance from Normandy to Hamburg from June 1944 to May 1945 is told very briefly, so that the book is anything but a dry chronicle of events in the daily life of a fighting Division; the author makes only a galloping review of the march of the Division, the places where it fought its battles and the condition of the weather and the terrain it encountered. He also provides a lot of facts and statistics, and they cover nearly every phase of the Division's operations—from a beachhead build-up following an assault landing and advance, to opposed crossings and attack. This wealth of detailed facts and figures gives the reader a conception of the magnitude of the task of administering a force on the battle-field. Reference is made to all arms and services in the Division, with the help of many charts and tables.

Major Bolland, "who was privileged to serve for six years in a first class team and is now searching for that same team spirit in Civilian life", writes in the first person. He has an agreeable style, which, although it has a tinge of nostalgia, provides very interesting reading.

The book is printed on art paper and well got up. It contains a number of excellent photographs and sketches, with quotations from English poets beside the caption of each photograph.

We recommend the book to every student of the science of warfare.

A.M.M.

CAPITAL CAMPAIGNERS

LIEUT.-COLONEL W.E. MAXWELL, C.I.E.

With Illustrations & Maps. Gale & Polden, 7/6

A recent addition to the military literature of this country is a regimental history published under the name *Capital Campaigners*. It is the story of the 3rd Battalion of a former Indian regiment, the 10th Baluch. The regimental historian in this case is Lieut.-Colonel W.E. Maxwell who saw service with the Battalion in the Second World War.

Capital Campaigners covers a period of over a hundred years, from the inception of the unit in 1844 to its return from the war in 1946. The author very rightly closes his tale at this stage; for a year later the Battalion ceased to belong to the Indian forces and opened a new chapter. It happens therefore that the entire history as narrated in this book falls within the period during which it was an integral part of the Indian Army.

The Baluchis—which term at various stages has included Sindhis, Brahuis, Punjabi Mussalmans, Dogra Brahamans, Khattaks, Afridis and others—appear to have been christened 'capital campaigners' as early as 1887, whence the title of the book. The unwitting originator of this name was Field-Marshal Sir George White (then Major-General) who had commanded a force, which included this unit, in the Burma campaign of 1885-87. Referring to its achievements in Burma he remarked, "I have formed a very high opinion of the soldier-like qualities of the Battalion. The native officers and men are active, fond of enterprise and capital campaigners".

Like all regimental histories this one contains a certain amount of information of value to the lovers of military lore. A century of existence as a military unit is not a small period and is bound to contain some interesting episodes and incidents. The reader will find them interwoven in the story that runs through campaigns in such widely separated fields as Persia, Afghanistan, Egypt, Burma, East Africa,

China, Mesopotamia, Ypres, Neuve Chapelle, Sicily, Italy and Greece, not to mention several others of lesser note.

In most of the pages of *Capital Campaigners* the reader will come across revelations which dispel ignorance or put a new complexion on previously held ideas. The author has selected and arranged his material in such a manner as to make the narrative a record as well as a story. Here are some of the informative bits:

The founder of the Baluch Regiment was Sir Charles Napier, known to history as the conqueror of Sind. In the fighting preceding the annexation of that territory he was so impressed by the fierce resistance of his opponents that he decided to raise two battalions from amongst them as soon as possible. His opponents were however more Sindhis than Baluchis. But Napier "could not be expected to distinguish too closely between the Baluch and the Sindhi". Thus although the proclamation ran that "Belooch and Sindee soldiers are required by His Excellency the Governor" and although at no period in history have the Baluchis as we know them formed a majority of the Regiment, the name Baluch supervened and took root and stayed to this day. This in spite of the fact that at a certain period the Baluch Regiment had no Baluchi at all.

If the Regiment got its name in this peculiar way, it got its unusual head badge in a still stranger manner. The badge is a feather or hackle of a small game bird popularly known as Chikor. It is a variety of partridge which is reputed to be extraordinarily mobile both on wings and feet. Once, so the legend runs, Sir Charles, when inspecting the Battalion during training, observed, "These Baloochies are as quick as their own chikor". The compliment went home or rather to the head of the Baluchis who still wear the chikor hackle on the left side of their service headdress.

In portraying the life-sketch of a military unit, specially one which has passed its century mark, the historian invariably comes up against that almost insurmountable obstacle—paucity of material. Much of the Baluch history, as in case of other regiments, has been lost through ill-kept or ill-preserved records and will perhaps never see the light of day. The credit for salvaging from oblivion whatever has been possible to get at must go to Sir Patrick Cadell, the "eminent historian of the Bombay Army", from whom the author got the draft of the first seven chapters which have been printed substantially as in that draft. The merit for the book being at all published however belongs to Colonel Maxwell who first conceived the idea of starting a Battalion's centenary fund but for which the publication of the Battalion's history might not have been possible.

It is futile to say of any specific work of history that it should have been written in one particular way or another. The historian who has studied the all too inadequate documents and pondered their contents day after day knows best what can be given to the public. All histories are born of irrepressible ardour and zeal of someone who wants to bring certain truths to light. Suffice it to say that *Capital Campaigners* bears ample marks of such zeal and industry.

P.C.B.

THE BRITISH NAVIES IN THE SECOND WORLD WAR

ADMIRAL SIR W.M. JAMES, G.C.B.

Longmans, 21/-

The author says in a note at the very outset of the book that it was not written for the student of naval warfare. His purpose was only to depict in broad outline

for the general reader the contribution of the British Navy to the vast Allied war machine which after supreme effort wrested victory from Germany and Japan. And by the British Navy, he means really the navies of all the countries comprising the Commonwealth, including Canada, Australia, and India. There is abundant reference to the part played by the U.S.A. in achieving victory; but the angle from which the book has been written is British in the larger sense, and hence mention of America's war effort comes in only incidentally.

Clearly, the author had to collect an enormous amount of material, and what was more difficult, to select out of that, just enough to present a readable account of the part of British navies in the last war. Nowhere in the book has praise in extravagant measure been bestowed even when it is justly due. The tone is always subdued, heroism being depicted in plain narrative form, and the discerning reader left to recognise it for what it is worth. That is straight naval tradition. And the result is a very worthy production, with no thrilling paragraphs anywhere but with no dull page either.

A remarkable feature of the last war, to which the author draws attention even in the opening pages is that there were no major fleet actions in it. And yet, the navy had to be alert all the while, for somewhere or other in the wide world, it was engaging the enemy every day. His U-boats were almost omnipresent, and in the earlier stages of the war, they could not be fought down with success. In spite of them, however, supplies had to reach where and when necessary, often in the face of heavy Luftwaffe attacks. The story of the trans-Atlantic and the Mediterranean convoys is an epic of cold sustained courage for which it is difficult to find parallels. Again, the huge organisation and the excellent team-work which alone made invasion of the Continent possible called for the utmost exertion of which the navy was capable in carrying men and material across the Channel.

The author is just in his references not only to the navies of the Dominions and of the U.S.A. but also to the parts played by the other Services. Indeed, close co-ordination of the three Services was a regular feature of the last war, and the author makes handsome acknowledgments to the Army and the Air Force in a number of places. None-the-less he does not conceal his opinion that, in the long run, it is sea power that brings victory. It is that power that enabled Britain to supply and reinforce her armies in North Africa; it is that also that brought the U.S.A. with her vast resources to fight in Europe; and it is that again the loss of which led to the defeat of Japan.

In writing the book, the author has laid the average reader under deep obligation.

S.P.S.

THE CANADIAN ARMY 1939-1945

COLONEL C. P. STACEY, O.B.E., A.M., PH.D.

With Illustrations and Maps

Published by the Department of National Defence, Ottawa, \$ 2.50

The part played by the Canadian troops in the Second World War has been well described by Colonel C.P. Stacey, Director of the Historical Section, Army Headquarters, Ottawa. There had been a Historical Section of the General Staff in the Department of National Defence for many years. Field Historical Sections accompanied Canadian Divisions in the two main theatres where they fought. A

great deal of valuable historical information which would otherwise have been lost was thus obtained and recorded.

In this interesting book which bears the sub-title 'An Official Historical Summary,' the author has tried to avoid embellishing the story of the Canadian Citizen Army with a wealth of details. Colonel Stacey has frankly admitted that the book is an interim report: a summary, not a history. "It is too brief to tell the whole story and is published too soon to be able to make any claim to finality". It is in fact an introduction to the comprehensive Official History which is intended to be published in three volumes.

From humble beginnings in 1939 (when Canada possessed only about 4,500 professional soldiers, while the professional strengths of her naval and air forces were, about 1,800 and about 3,100 respectively), the Canadian Army was made into a magnificent fighting force, largely through the organising genius of General McNaughton and General Crerar. The First Canadian Infantry Division was concentrated in U.K. by February 1940. It was to share the honour and peril of the Trondhjem frontal attack. But the plan could not be implemented. Before the Canadians could take their allotted place in the British Expeditionary Force in France, that quiescent front flamed into violent activity and the B.E.F. became involved in an Allied debacle far worse than that of Norway. After the fall of France, the Canadian troops formed a part of the 7th Corps (Anglo-Canadian). The passing of the invasion crisis in the autumn of 1940 and the completion of the concentration of the 2nd Canadian Division in U.K. led to the replacement of the Anglo-Canadian 7th Corps by a Canadian Corps (the First Canadian Corps). The year 1941 witnessed the conversion of the Canadian Corps from a two-division formation possessing no armour of its own into a powerful force of three infantry divisions and an army tank brigade, while before the winter a complete Canadian armoured division was also in Britain preparing to take its place in the order of battle. On 6 April 1942, Headquarters, First Canadian Army came into existence. The organization of the Headquarters of the 2nd Canadian Corps was long delayed; it did not come into existence until early in 1943. By the spring of 1943 the Canadian Field Army in U.K. had reached, in broad outline at least, its final form. It consisted of an army headquarters, two corps headquarters, two armoured divisions, three infantry divisions, and two independent army tank brigades.

For more than three and a half years the Canadian Army in the European theatre was condemned to a largely static role. Save for a few minor enterprises and the one day's bitter fighting at Dieppe in 1942, its task was garrison duty. It was a period of preparation. The long delay served to turn the force into an exceptionally well trained army. Thus when the time for action came, it played distinguished parts in two of the three great European campaigns which produced the defeat of Germany: that in Sicily and Italy beginning on 10 July 1943, and that which began with the invasion of Normandy on 6 June 1944.

The story of the Canadian Army, so rich in incidents, moves to a climax with an easy grace and rhythm. Even the dull details concerning the static role of the Army have been suffused by the gifted writer with a rich glow of colour. Colonel Stacey has eminently succeeded in his aim of making the story "comprehensible to the average person", for he emphasises that the main function of the Official History "is not to instruct the Canadian soldier of to-day, though it is hoped that he will find it useful; the object is to tell the Canadian citizen what his army accomplished in the last war, and to provide him, perhaps, with the means of forming an intelligent judgment on military issues that may confront him in the future".

D.P.

FRANCIS YEATS-BROWN

EVELYN WRENCH

Eyre & Spottiswoode, 15/-

Although the author of "Bengal Lancer" has recorded something of the story of his life in that best seller by which he is still remembered, as well as in others of his less well-known works, Yeats-Brown was collecting material for writing an autobiography before his death in 1944.

His cousin, Sir Evelyn Wrench, has done ample justice to this portrait of a soldier, journalist, author and mystic. His complex and many-sided personality of which we get glimpses in his own writings—whether it be in the physical satisfaction of the flesh or in the spiritual quest which seeks repose in meditation and *yoga*—is here fully brought out by means of copious extracts from his books and letters. There is a chapter on the writing of the Bengal Lancer itself.

In the thirties Yeats-Brown toured the Continent to study Nazi Germany and Soviet Russia at close quarters. His evaluation of both regimes was not borne out by subsequent events. Munich disillusioned him like all others of his way of thinking.

During the Second World War, he returned to India to collect material for a book on India's contribution to the war effort. The book, "Martial India", was published in 1945 after his death.

This biography of one who has met and recorded his impressions of many celebrities of our times contains information of interest and value to serviceman and civilian alike.

CORRESPONDENCE

ON BEING A GOOD COMMANDER

AIR COMMODORE NARENDRA, I.A.F.

You ask me what the qualities required of a successful Unit Commander are, and how best we can ensure that our Officers are trained in those qualities. Well, the answer is simple. You just put yourself in the shoes of the recipient of your orders and ask yourself the question, "Who would I *like* to follow, and whose orders would I *like* to obey?" Because is it not quite obvious that you would obey an order better if you *liked* to obey it, and that you would follow a man better if you *liked* to follow him? That then is the answer—the crux of the matter. The definition of a good Commander then becomes, "A person whose orders people *like* to obey", and a Leader likewise becomes "A person whom people *like* to follow". Now the next question is, "Why do we like to obey the orders of a particular person? Is it because the orders he gives are pleasant or is it that we would obey his orders irrespective of the fact that the orders were pleasant or otherwise?" Here, then is the difference between a Commander and a *good* Commander. A good Commander is one whose orders we would obey irrespective of whether they were pleasant or otherwise.

It is human nature always to "back the winner". The Commander should therefore be a WINNER. He should be tough and clever. He should be tough physically and clever mentally. He should be good at his job. He should be clear in his decisions and firm in his orders. We do hate obeying an order when in our minds lurks a suspicion that that order would perhaps be revoked or altered. An indecisive person is not trusted by anybody. It is the consistency in a man that we admire.

Talking of admiration, we do a great deal for a good-looking face. Now good looks is a commodity over which we have no control. But what we *can* control is our presentation. Smartness in dress, the trim of our hair and the crispness of our manner go a long way in creating a sense of confidence in people we come in contact with. The effect of your "turn-out" is so great that you can very nearly trade on it. Of course if you have the good looks to back your smart "turn-out", you are the winner right from the word "Go".

The next point is pure mathematics. We *take pains* to please a person who takes pains to please us. If you want a big following you have got to *feel* for the other person. You have to be conscious of his capabilities—his virtues as well as his vices. His limitations. And remember, we are all very conscious of our faults, and we live in the hope that other people do not know them. And here comes a portion of hypocrisy so essential in a man of judgment. You must "pretend" that you do not know the other man's faults even if you actually do. Besides, if you sit down to analyse any one's faults you would find that he has them because he has very good reasons for having them. He has them because he has no choice.

In any case, a fault in a man is a minus quantity. It can help nobody. It cannot do *you* any good. So why waste your time over it! Why not ignore it with a good grace and trade on his virtues instead, which alone would give you tangible results!!

And what don't we do for a "pat on the back". You must have tried it often enough on small children; and all men are essentially grown up children. Give a *genuine* appreciation to a good deed and it will be followed by another. Give a

"well done" for an irksome order obeyed and you can count on the next one being obeyed better.

Human beings are a frightfully conceited lot. We all like good things being said about us. We hate an unkind adjective to our name. Why not trade on this fact!

If you tell a person, and make him believe you, that he is a very brave man, you will find that he will be very afraid to do a cowardly act—at least in your presence. He will be very afraid of falling from the pedestal you have put him on. Likewise you tell a person that he is an awful liar, and he will seldom take the trouble of telling you the truth. And why should he, too? After all, it is quite hard to be good, and when you have already condemned him as being bad you have taken away from him the onus of trying to be good.

Above all, remember one thing. This world is a great market place, where you have to pay for every thing you get. For some things you pay in cash; for others you pay in kind. The price of obedience of an order may also be in cash, but that would be an unhealthy state of affairs because of the limitation of the medium of barter. But if you are willing to pay for the obedience of your order by your virtues, by your personal honesty, by your sense of mathematical justice, by your selflessness, by your appreciation of the other man's view-point, by the acceptance of his limitations, by kindness and by love, by your big-heartedness, you will truly be a good Commander, a good Leader. If you can place yourself in the shoes of the recipient of your order and yet feel that the order is right, nine times out of ten that order will never be disobeyed.

And after all, a good Commander is only a person whose orders are readily obeyed!

Now comes the second part of the question, how best we can inculcate these qualities in our young officers.

In the field of medicine, they say, that the cure is not half as difficult as the diagnosis. Here I am afraid we must differ from the field of medicine and elevate ourselves to a higher plane—the plane of religion where they say that the Key to Heaven is in *our own* hands.

You will agree with me when I say that there is nothing in what I have said above which you did not know already. The diagnosis is, therefore, there, but so indeed is the lack of good commanders and good leaders in our Fighting Services!

Where you go down is in the "cure", or rather the *will to win*, the will to win the hearts of the people who have been placed in your sacred Trust. For, once you win their hearts there is nothing they will not do for you. There is no limit to where they will not follow you. As in Religion where the Key to Heaven is in your hands, so indeed, when dealing with human beings, you carry the Keys to their hearts in your hands. It is up to you, now, as always, to use it. Make it now.

TROOPING THE COLOUR

LIEUT.-COLONEL C.C.R. MURPHY

66-a Norfolk Road, Littlehampton, Sussex

This year, the ceremony of Trooping the Colour by the Brigade of Guards, in which the Household Cavalry are again to participate, will be carried out with all its

former grandeur and picturesqueness, and no doubt very few of our summer visitors to London will miss the opportunity of witnessing it if that can be avoided.

Known officially as the King's Birthday Parade,* it is merely the normal guard-mounting ceremony, with an increased number of troops taking part. The phrase 'Trooping the Colour' is familiar to us all; but what does it mean? As to the ceremony itself, it is older than the British Standing Army; but what is the origin of it? Here in brief are the answers to these questions.

Ever since the dawn of history, flags have been used as rallying-points in battle, and it has always been the first duty of every soldier to know for certain the particular flag that he has pledged himself to follow. All down the ages, the commander of every company of foot-soldiers and every troop of horse had his own flag, charged with the badge or some other armorial ensign of its owner. In comparatively modern times however, say from about the year 1700, soldiers ceased to carry the banner of their officer, and company colours were gradually eliminated for battalion colours with the armorial bearings of the sovereign. The Company Badges, still in existence in the Brigade of Guards, are a survival of these company colours, and are borne in rotation on the regimental colours of the various battalions of the Guards.

Obviously, it has always been a matter of great importance that every man should be able to recognize at sight the flag of his own leader. After battle had been joined, and formations had been broken up in the course of the hand-to-hand fighting, and smoke and dust obscured the view, this ready recognition became much more difficult. It was therefore the care and duty of every leader to familiarize his followers with his flag, and with this object in view to display it frequently before them. For the same reason it became the custom at the end of a day's march to carry the colours down the ranks, and then to escort them with due pomp to the billet in which they were to be lodged for the night. This place of lodging was usually the headquarters of the regiment, and was in effect the alarm post where it would assemble in case of emergency.

The reasons therefore for this ceremony, originally known as 'Lodging the Colours', were to ensure, firstly, that every man was acquainted with the distinguishing device of his own unit, and secondly, that all ranks were aware of the place of assembly in a strange town. On arrival at the lodging, the colours were generally hung from a doorway or window to indicate the battalion headquarters and alarm post. In the morning, they were solemnly escorted from their billet to their place in the ranks of the battalion. Inevitably, as a result of these ceremonies, the colours soon began to draw about them a sort of reverence; and from merely representing the position of the regiment, they came to embody the spirit of it also.

The ceremony of Lodging the Colours gradually reverted to the very ancient one of showing them, and became if anything rather more elaborate. When the old name ceased to be applicable, it was changed to that of 'Trooping the Colour,' by which this stately ceremony is now so widely known. In bygone years, all the colours of a regiment—and they mostly had three—were trooped; but today that honour is reserved for the King's Colour, unless the King is not actually present. When any other member of the Royal Family or certain other distinguished personages only are present, then the Regimental Colour is carried.

The records show that the Brigade of Guards carried out a Trooping of the Colour Parade as early as 1755, and that for some time afterwards that ceremony was regularly performed when important guards were mounted and dismounted, and also at Retreat. It was in 1805 that the custom of Trooping the Colour to honour the sovereign's birthday was introduced, though it fell into abeyance from 1811 to 1820.

* Much of this information has been courteously supplied by the Grenadier Guards.

owing to the illness of the King. The ceremony was revived on the accession of George IV and has continued ever since, though the Colour is no longer Trooped on the Queen's birthday as well as the King's, as was the case during the reign of William IV.

OFFICERS' MESSES

COLONEL D. SANDEMAN, C.I.E.

*(Late Q.V.O. Corps of Guides F.F. and formerly
Commandant of the Kitchener College)*

Meynell Langley, Derby

In days gone by I used to write for your Journal quite often, but that was many years ago. Now I am old and out of date, but perhaps you will allow me a little space to make some comments on Lieut.-Colonel Palit's admirable prize essay on Officers Messes.

First let us consider the question of expense, which, it appears, is the main objection raised by the advocates of the abolition of messes. Colonel Palit mentions the habit acquired by many War-time officers of saving money. This is quite natural amongst young officers who may never have earned money, or at any rate not half as much, before they got their commissions and who probably have many 'dependants' in their family circles.

But this habit will die out gradually; it is bound to do so, and in course of time only those who have an instinctive urge towards a soldier's life will come forward as candidates for commissions. I myself come of an Army family and many members of it, including my father and both my grandfathers, spent much of their lives in military service in India or Burma and none of them made money, or ever expected to do so. Fortunately for them it was possible to live on one's pay in the Indian Army, but in the British service in pre-war days it was practically impossible for a young officer to do so without help from his parents.

In connection with money making and the Army, I always remember the story of a young Indian who was a student at a Military College with which I was connected many years ago. His father was a man of some standing in civil life, but the family had had no previous connection with the Army and as the boy seemed bent on military service he took him to see the Deputy Commissioner to ask his advice on the matter. The D.C. said to the boy, "What do you want to join the Army for? You will never make money in the Army." The boy replied, "I don't want to make money. Anyone can make money, even a prostitute. I want to be a soldier."

And so it came about, and in due course he went to the I.M.A. and got a commission. I have often wondered what became of him afterwards. This story illustrates the right spirit; the spirit which has inspired many of the young men in Great Britain in past generations and which will, I feel sure, do likewise in India in generations to come.

Now with regard to messes, which is the subject of Colonel Palit's essay, I was rather horrified at his statement, "I have known some War-raised messes of smaller units to vary anything between a glorified chummery and gambling or drinking dens."

I do not doubt the truth of this statement, for in War-time standards go down with a bump, but this is due almost entirely to the fact that, owing to the rapid expansion of the Army, senior regular officers are so few and far between.

During the late war I was often disgusted with the behaviour of young officers, who seemed to think that it was an act of merit to get tight, instead of it being a disgrace to their uniform. But the sort of small messes Colonel Palit refers to and the mess of a really good regiment or battalion are poles apart, and in my opinion there is no institution in the world to compare with a really good mess, in which young men learn from their elders lessons which are often of infinite value to them all their lives.

I was very lucky in spending most of my service with a really first class regiment. They were very keen on polo in the old days and the first thing which struck me when I first joined them was how little liquor was consumed in the mess. The fact was that practically no one had anything to live on beyond his pay and what money they had they spent on buying ponies.

Gambling in the mess was, of course, absolutely forbidden and during the 27 years I served with that regiment I never once saw one of my brother officers tight in the mess.

The comradeship amongst the officers was, and always is in a really good regiment, something one never finds to the same degree in any other walk of life, and the first lesson I learnt when I joined was never to crab an officer of one's regiment in public or to anyone outside the regiment.

Other lessons one learnt were that one was expected, as a matter of course, to do one's job to the best of one's ability (the regiment had no use for an officer who did not do so), and that the most important duty of an officer was to look after his men first, and himself afterwards.

These are some of the things we learnt as young officers as the result of close association in the mess with older and more experienced men, and I am convinced in my own mind, as Colonel Palit obviously is also, that it would be a tragedy if messes were ever abolished in India.

But we who spent our lives in the Indian Army in days gone by have no say in the matter now—and quite rightly so—but the hearts of many of us remain with the soldiers with whom we served so happily in the past and to whom we gave of our best.

It is therefore natural that we should like to feel that some of the things we learnt from better men when we were very young, were still being carried on in the Army of the land we loved so well.

OCEAN RACING

CAPTAIN C.D. MOHAN

2 (Para) Madras Regt.

I am sure most of your readers would have welcomed the suggestion put by Brigadier (now Major-General) Sheodatt Singh on Ocean Racing. I think the scheme, besides being of Combined Ops training value, will stimulate in the officers

and men of the Services the spirit of ADVENTURE, which is so healthy for any armed Service.

As stated by the General the scheme is not impossible and could be easily adopted with a few slight modifications.

I am not sure if the R.I.N. will be able to provide three naval sloops for the competition to follow the teams as suggested. This difficulty, however, could be overcome by cutting short the distance (e.g. instead of Calcutta-Madras run, we could have Calcutta-Masulipatam or Vizagapatam-Madras) when smaller vessels (Mine-sweeper class or L.C.'s) could be employed in place of sloops. When the teams become used to Ocean Racing, then of course, we could increase the distance and we may not need any R.I.N. vessels to follow the teams.

I think, in the initial stages, the scheme would require a certain amount of 'coaxing' by the senior officers but I am sure it would very soon attain ever increasing popularity.

MILITARY SCIENCE AS A UNIVERSITY SUBJECT

CAPTAIN SHIAM LAL

Department of Physics and Military Science, Meerut College, Meerut

I am sure you and your esteemed readers are aware of the fact that four Universities in U.P. have been teaching Military Science as a regular subject of study for the Degree Exam. In spite of various impediments, those Universities felt that it was better to make a beginning rather than wait for that indefinite time when conditions would be ideal. However, as some scepticism still prevails in higher circles, advanced studies and research have not yet been organised in any of those Universities.

I am one of those who feel very strongly that this subject has an importance of its own; and that it provides an extremely important branch of study. Its aims are (a) to develop the mental faculties of youth as much as, if not more than, any other subject of study; (b) to generate enthusiasm for the study of Military art and science; (c) to provide trained personnel for the defence science organisations and other defence services of the Union; (d) as a long term policy to provide field of research in defence problems of the Union—pure research, unbiased and uninfluenced as Universities are by Military conservatism of established authority, can be truly conducted only in the atmosphere that prevails in Universities.

It is felt however that Universities do not have enough resources to establish these departments on sound lines. Hence some liaison with the Defence Department, especially their research section, and the Defence Science Organisation should be invaluable.

Another problem is that the syllabi of the various Universities are not co-ordinated and sometimes they aim at catering for something of everything—Military Law, Hygiene, History, Geography and Military Science, etc. If there could be some co-ordination at the highest level, a correct approach to the problem would be within sight.

Through your esteemed Journal, I would therefore request those who are interested in the study of Military Science to suggest ways and means of establishing

this subject on sound lines. If possible they may suggest the syllabus; ways and means to equip the laboratories; liaison with Defence Department, Finance, etc.

THE HIMALAYAN CLUB

(Delhi Section)

Members of the Himalayan Club resident in Delhi, the Punjab, U.P. and Rajasthan are requested to advise the undersigned of their present addresses.

Non-Members are cordially invited to write to or call on the undersigned. The first aims and objects of the Himalayan Club are to foster interest in knowledge and news of climbing, exploration or kindred subjects through science, art, literature and sport in the Himalayas and other mountains and to collect information regarding Himalayan routes. The Club is open to all who have these objects at heart.——
Robert E. Hotz, Local Hony. Secretary, The Himalayan Club, C/o Hotel Cecil, Delhi.

R.I.M. COLLEGE OLD BOYS ASSOCIATION

The Old Boys Association of the Royal Indian Military College, Dehra Dun has been formed. It is hoped that all Old Boys of this College will join the Association. All Old Boys are requested to get in touch with Colonel G. G. Bewoor, National Cadet Corps Directorate, Ministry of Defence, New Delhi giving their present and permanent, or Bankers' address and the dates they were in College. A joining subscription of Rs. 15/- should also be sent with the information.

GREETINGS

Brigadier E.W. Langlands, O.B.E., Dorset, England, sends the following little message to all Indians who served with him :—

“ I send you greetings and remembrance of deep affection and gratitude for the happy years we spent together. ”

SECRETARY'S NOTES

Gold Medal Essay Competition 1949

Ten entries were received for this competition. The judges appointed by the Council have made the awards as follows:

First Prize ..	Lt. Col. B.L. Raina, AMC	.. Rs. 200
Second Prize ..	Colonel Rajendra Singh	.. Rs. 100

No medal was awarded. The first of the two winning essays appears in this issue.

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Back Issues of the Journal

The following back numbers of the Journal are required :

No. 308	July 1942
No. 310	January 1943
No. 311	April 1943
No. 326	January 1947
No. 330	January 1948

Members who have any of these copies to be sold at cost price are requested to write to the Secretary.

Corrigenda

In the October 1948 issue of the Journal, page 393, para 2, line 2, a typographical error occurred regarding the date on which the Soldiers and Sailors Families Association was founded. For "1855" read "1885".

In the July-October 1949 issue of the Journal, page 236, para 3, lines 1-2, please delete the words "and Deputy Commander-in-Chief, Army" after "Chief of General Staff". The error is regretted.

New Members

From 1st October 1949 to 25th January 1950, the following new members joined the Institution:—

AKHE RAM, Lieut.-Colonel, M.B.E., The Jat Regiment.
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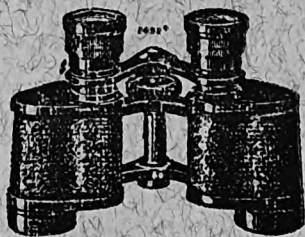
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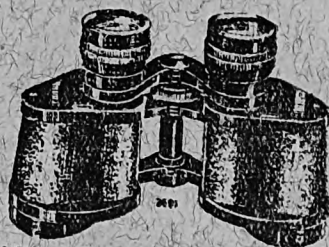
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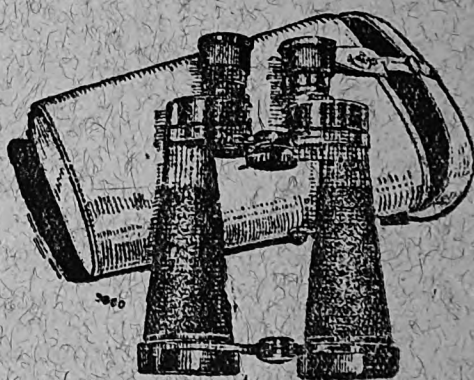
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Printed by The National Printing Works, 10 Darya Ganj, Delhi, and Published by Lieutenant-Commander K. V. Cherian, I.M. for The United Service Institution of India, Simla.

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